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# The Journal of The SOUTH CAROLINA Medical Association


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CRYPTOCOCCOSIS

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MINUTES OF COUNCIL

MINUTES OF HOUSE OF DELEGATES, PART II



VOLUME 68 JANUARY, 1972 NUMBER 1






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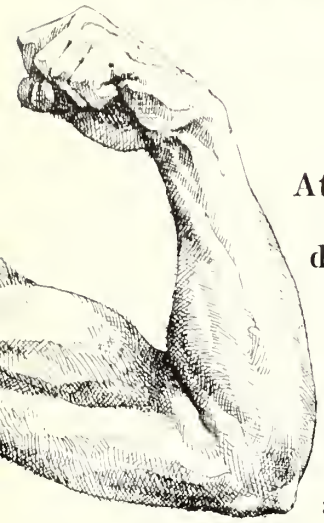
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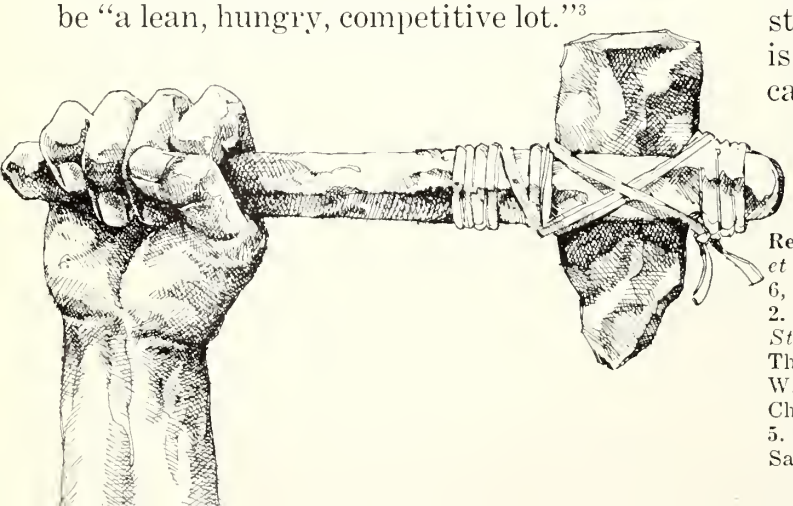
# IF MORE MEN CRIED



**At least seventy-five out of one hundred adults with duodenal ulcers are men.[1] Why? It may be significant that duodenal ulcer patients tend to crave recognition and are "especially vulnerable to threats to their manly assertive independence."[2]**

**Hypersecretion—an atavistic response.** Stewart Wolf, who, with Harold G. Wolff, studied the personalities of duodenal ulcer patients, wonders if masculine competitiveness is related to "an atavistic urge to devour an adversary." It is striking, he reports, that an accentuation of gastric acid secretion and motility can be "induced in ulcer patients by discussions that arouse feelings of inadequacy, frustration and resentment."[2]

**By chance? A lean, hungry lot.** Was the link between emotions and gastric hyperacidity acquired through mutation to serve a purpose? During man's jungle period of evolution, the investigator points out, a male dealt with a foe by killing and devouring it. "It may be more than coincidence," he concludes, that peptic ulcer patients appear to be "a lean, hungry, competitive lot."[3]



**Big boys don't cry.** If more men cried, maybe fewer would wind up with duodenal ulcers. But men will be men—the sum total of their genes and what they are taught. Schottstaedt observes that when a mother admonishes her son who has hurt himself that big boys don't cry, she is teaching him stoicism.[4] Crying is the negation of everything society thinks of as manly. A boy starts defending his manhood at an early age.



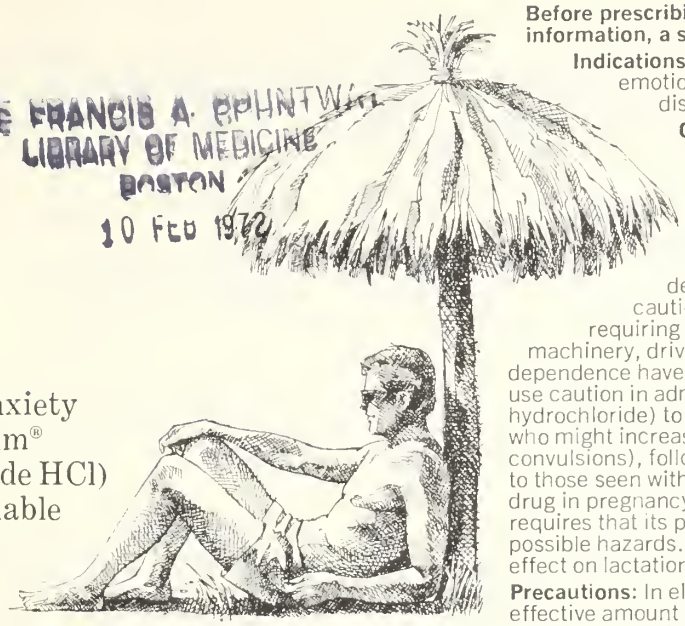
**Take away stress, you can take away symptoms.**

There is no question that stress plays a role in the etiology of duodenal ulcer. Alvarez[5] observes that many a man with an ulcer loses his symptoms the day he shuts up the office and starts out on a vacation. The problem is, the type of man likely to have an ulcer is the type least likely to take long vacations or take it easy at work.

**The rest cure vs. the two-way action of Librax.**® For most patients, the rest cure is as unrealistic as it is desirable. Still, the stress factor must be dealt with. And here is where the dual action of adjunctive Librax can help. Librax is the only drug that com-

References: 1. Silen, W.: "Peptic Ulcer," in Wintrobe, M. M. *et al.* (eds.): *Harrison's Principles of Internal Medicine*, 6, New York, McGraw-Hill Book Company, 1970, p. 14 2. Wolf, S., and Goodell, H. (eds.): *Harold G. Wolf Stress and Disease*, ed. 2, Springfield, Ill., Charles Thomas, 1968, pp. 68-69. 3. *Ibid.*, p. 257. 4. Schottstaedt W. W.: *Psychophysiologic Approach in Medical Practi* Chicago, Ill., The Year Book Publishers, Inc., 1960, p. 1 5. Alvarez, W. C.: *The Neuroses*, Philadelphia, Pa., W. Saunders Company, 1951, p. 384.

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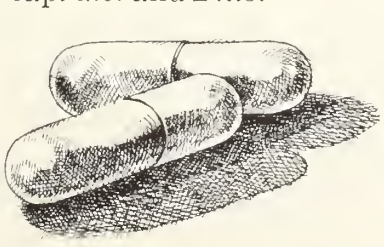
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**Indications:** Indicated as adjunctive therapy to control emotional and somatic factors in gastrointestinal disorders.

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**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

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phenformin is prescribed in combination with Orinase, ap- riate package literature should be consulted.

**dverse Reactions:** Severe hypoglycemia, though uncommon, occur and may mimic acute neurologic disorders such as bral thrombosis. Certain factors such as hepatic and renal ase, malnutrition, advanced age, alcohol ingestion, and nal and pituitary insufficiency may predispose to hypogly- ia and certain drugs such as insulin, phenformin, sulfona- es, oxyphenbutazone, salicylates, probenecid, monamine ase inhibitors, phenylbutazone, bishydroxycoumarin, and yramidol may prolong or enhance the action of Orinase and ease risk of hypoglycemia. Orinase long-term therapy has reported to cause reduction in RAI uptake without producing clinical hypothyroidism or thyroid enlargement and at high doses is mildly goitrogenic in animals. Photosensitivity reactions, disulfiram-like reactions after alcohol ingestion, and false-positive tests for urine albumin have been reported.

Although usually not serious, gastrointestinal disturbances (nausea, epigastric fullness, and heartburn) and headache appear to be dose related and frequently disappear with reduction of dose or administration with meals. Allergic skin reactions (pruritus, erythema, urticaria, and morbilliform or maculopapular eruptions) are transient, usually not serious, and frequently disappear with continued administration. Orinase should be discontinued if skin reactions persist. Recent reports indicate that long-term use of Orinase has no appreciable effect on body weight.

Orinase appears to be remarkably free from gross clinical toxicity: crystalluria or other renal abnormalities have not been observed; incidence of liver dysfunction is remarkably low and jaundice has been rare and cleared readily on discontinuation of drug (carcinoma of the pancreas or other biliary obstruction should be ruled out in persistent jaundice); leukopenia; agranulocytosis; thrombocytopenia; hemolytic anemia; aplastic anemia; pancytopenia; and hepatic porphyria and porphyria cutanea tarda have been reported.

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*Warnings:* Use during pregnancy is to be avoided.

*Precautions:* 1. *Starvation Ketosis:* This must be differentiated from "insulin lack" ketosis and is characterized by ketonuria which, in spite of relatively normal blood and urine sugar, may result from excessive phenformin therapy, excessive insulin reduction, or insufficient carbohydrate intake. Adjust insulin dosage, lower phenformin dosage, or supply carbohydrates to alleviate this state. **Do not give insulin without first checking blood and urine sugar.**

2. *Lactic Acidosis:* This drug is not recommended in the presence of azotemia or in any clinical situation that predisposes to sustained hypotension that could lead to lactic acidosis. To differentiate lactic acidosis from ketoacidosis, periodic determinations of ketones in the blood and urine should be made in diabetics previously stabilized on phenformin, or phenformin and insulin, who have become unstable. If electrolyte imbalance is suspected, periodic determinations should also be made of electrolytes, pH, and the lactate-pyruvate ratio. The drug should be withdrawn and insulin, when required, and other corrective measures instituted immediately upon the appearance of any metabolic acidosis.

3. *Hypoglycemia:* Although hypoglycemic reactions are rare when phenformin is used alone, every precaution should be observed during the dosage adjustment period particularly when insulin or a sulfonylurea has been given in combination with phenformin.

*Adverse Reactions:* Principally gastrointestinal; unpleasant metallic taste, continuing to anorexia, nausea and, less frequently, vomiting and diarrhea. Reduce dosage at first sign of these symptoms. In case of vomiting, the drug should be immediately withdrawn. Although rare, urticaria has been reported, as have gastrointestinal symptoms such as anorexia, nausea and vomiting following excessive alcohol intake.

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

**Contributions of Original Articles**

**Length**—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

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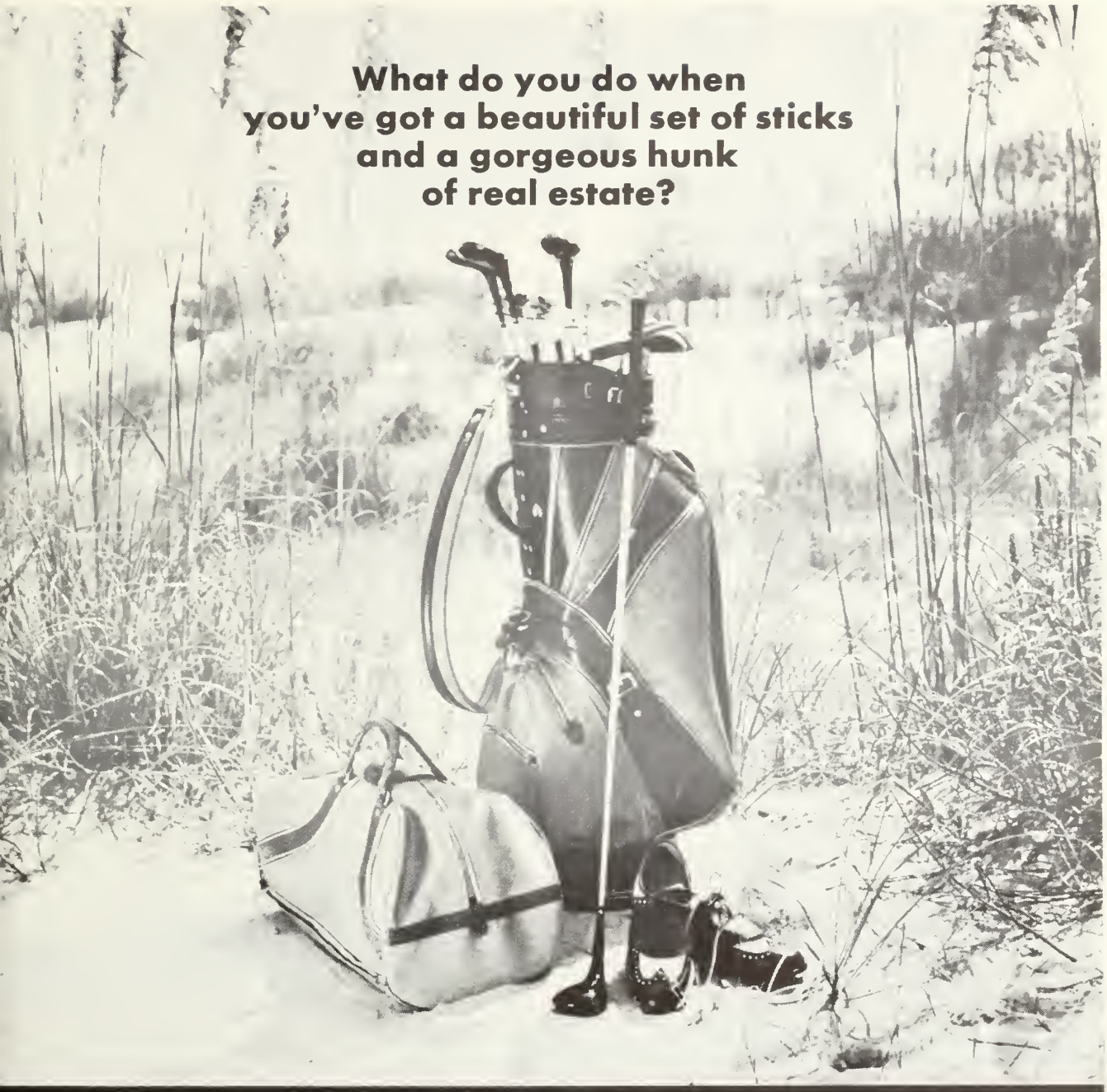
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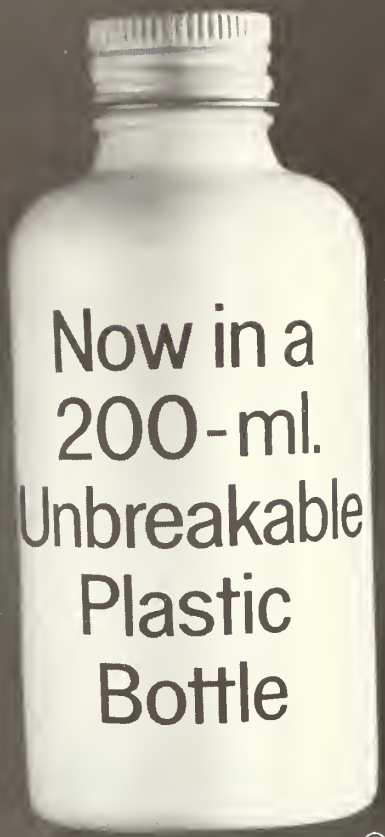
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# CRYPTOCOCCOSIS AND OTHER PULMONARY MYCOSES IN COLUMBIA

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This report stems from a review of the pulmonary fungi in the Columbia area. The surprising prevalence of cryptococcosis and the rising incidence of these infections deserve particular attention. All practicing physicians may face these diseases which attack all areas of the body in patients of all ages. We diagnose them only after unusual care is persistently applied to obtain diagnostic material and only after close cooperation with our pathologists.

## Material For Study

For this review all cases of pulmonary fungus infections which were on file in the three large general hospitals in Columbia, in the South Carolina Tuberculosis Sanatorium, and in the Veterans' Administration Hospital were studied through 1967 (Table I). A case summary of these with the addition of two cases of cryptococcosis are presented in Table 2. Also, mention is made of six cases of histoplasmosis admitted since the 1967 review.

**TABLE 1. Pulmonary Mycoses in the Columbia Area Through 1967**

| Type of Mycosis | No. of Patients |
|---|---|
| Cryptococcosis | 15 |
| Aspergillosis | 8 |
| In old cavities | 7 |
| Accompanying lymphoma | 1 |
| Histoplasmosis | 4 |
| Blastomycosis | 4 |
| Actinomycosis | 3 |
| Coccidioidomycosis | 5* |
| Mycormycosis | 1 |
| Nocardiosis | 1 |

*One patient had never been out of South Carolina.

## Analysis of Diseases

The experience with each disease encountered in this review will be briefed and pertinent comments attached. Because cryptococcosis was the most prominent disease, it will be discussed first.

# TABLE II—SUMMARY OF CASES OF PULMONARY FUNGI IN COLUMBIA

## CRYPTOCOCCOSIS — 17 CASES

| Case | Adm. Date | Age Race Sex | Hosp. | Clinical Notes | Lab. | Procedure | Lesion | Drug | Result |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 7-11 1946 | 31 NF | TB | 3 wks. cough, meningitis bilateral infiltration | Spinal fluid, sputum cult. positive, C. neo. | Autopsy | | 0 | Died in 3 weeks |
| 2 | 1950 | Adult M | VA | Dr. E. Cardwell, pathologist, record of autopsy | | Autopsy | | 0 | Died |
| 3 | 1-28 1958 | 33 WF | Gen. | 2 mos. cough, hemoptysis | C. histologically | Apical post. segmentectomy 1-30-58 | 4 cm. mass purulent, edema | 0 | Well 10 years |
| 4 | 12-18 1963 | WF | Gen. | 6 wks. cough, pain | C. neo. histologically. Cult. pos., surg. spec. | L. L. lobectomy Dec. 1963 | 10 cm. edematous mass | 0 | Well 4 years |
| 5 | 6-22 1963 | 31 WM | Gen. | 3 yrs. pain, 1 yr. spreading infiltration | C. neo. histologically in surg. spec. Bronch. washings culture pos. | L. U. lobectomy 6-21-63 | | Ampho B | Well 6 years |
| 6 | 2-17 1964 | 47 WF | Gen. | Asymptomatic nodule | Surg. spec. culture positive C. neo. | Wedge resec. R. L. lobe, 2-25-64 | 3 cm. nodule, adenopathy | 0 | Well 1969 c. 5 years |
| 7 | c. 1964 | c. 65 WF | Gen. | Moribund. Meningitis—lung disease | C. neo. spinal fluid | | | ? | Died in days |
| 8 | 4-64 8-66 | 30 WF | Gen. | Boeck's sarcoid 1964, steroids. 1966 osteo. femur. Lung fibrosis, destruction | C. neo. culture pos. osteo. 1966 | Lung biopsy 1964 Thigh drained 1966 | | Ampho B | Died 1966 Pul. fail. Hem. |
| 9 | 4-7 1965 | 46 WM | VA | Proven cryptococcosis, years controlled. Cavitation in lung | | | | Ampho B | Died of other causes |
| 10 | 9-65 | 49 NM | VA | Pneumothorax 1964, bilateral infiltration, cavities | C. histologically surg. spec. | Lung biopsy 1965 | | Ampho B | Stable 4 years |
| 11 | 11-5 1965 | 40 NM | VA | Incidental finding, films negative | | Autopsy | 0.5 cm. nodule R. L. lobe | | Died hypertensive CVD |
| 12 | 3-28 1966 | 31 WF | Gen. | Cough, pain, fever, 3 mos. bilat. infiltration, cavities | C. histologically Surg. spec. | April 1966 Wedge resection | | Ampho B | Well, 2 years. 2 mos. |
| 13 | 11-6 1966 | 25 NF | Gen. | Mass, cough, 6 mos. Resection, meningitis post-op., amph-B, cured of fungus. Pul. TB 1969. | C. histologically surg. spec. Bronch. washings cult. pos. C. neo. Sputum cult. pos. for TB 1969 | R. U. lobectomy 11-11-66 | Hilar adenopathy | Ampho B | Died of TB Aug. 1969 |

| Case | Adm. Date | Age Race Sex | Hosp. | Clinical Notes | Lab. | Procedure | Lesion | Drug | Result |
|---|---|---|---|---|---|---|---|---|---|
| 14 | 7-16 1967 | 46 WM | Gen. | Cough 2 mos. | C. neo. seen and cultured from lung and lymph nodes | L. L. lobectomy 7-21-67 | Mass 15 cm. | Ampho B | Well 2 years |
| 15 | 7-24 1967 | 24 NF | Gen. | 2 weeks, cough, fever, meningitis. Bilateral infiltration, mediastinal adenopathy | C. neo. culture pos., spinal fulid | | | Ampho B | Well—lung disease stable 18 mos. |
| 16 | 1969 | 49 WM | VA | Six months chills, fever, cor pulmonale. Miliary chest film with calcification and mediastinal adenopathy. Terminal C. N. S. symptoms. Autopsy—disseminated disease—small cavity lung | C. found histologically | | | 0 | Died |
| 17 | 1970 | 38 NM | Gen. | Meningitis with mild headaches & fever, bilateral pulmonary infiltrates. Latent diabetes mellitus. Skin nodules. Diagnosed nine months after onset. 5-Fluorocytosine in fall 1970. | Cult. C. Neo, from skin lesion & spinal fluid | Biopsy Skin Lesion | | 5-Fluorocytosine | Marked Improvement March 1971 |

## HISTOPLASMOSIS — Active — 4 Cases

| Case No. | Adm. Date | Age, Race, & Sex | Hosp. | Clinical Notes | Drug | Result |
|---|---|---|---|---|---|---|
| 1 | 6-15-66 | 46, WM | Gen. | Acutely ill, miliary lung lesions, 3 wks. after bulldozing starling roost Batesburg. Hilar lymphadenopathy. Histo. C. seen in scalene node and cultured. Skin test and compliment fixation tests +. Well in 2 mos. Fatal heart attack 2 years later. | 0 | Cured |
| 2 | 2-21-63 | 51, WM | TB | Chronic bilateral pulmonary histoplasmosis, Greenwood 1962. Histo. skin test +. Comp. fixation 1:512. Drug Rx clearing. Two thin walled cavities remaining after 4 mos. | Ampho. B | Doing well 3 mos. after disch. |
| 3 | 1-19-59 | 37, NM | TB | Acute illness, pneumonia left lower lung, small pleural effusion, histo. skin test and serologic tests +. Lung biopsy—fibrosis. Slight residual calcification after 7 mos. | 0 | Inactive |
| 4 | 7-24-59 | 37, M | VA | From Anderson, active diffuse bilateral infiltrate, Histo. Skin test and compliment fixation +. Improved "few scars" on 2-8-60. | 0 | Inactive |

## BLASTOMYCOSIS — 4 Cases

| Case No. | Adm. Date | Age, Race, & Sex | Hosp. | Clinical Notes | Drug | Result |
|---|---|---|---|---|---|---|
| 1 | 10-18-45 | 35, NM | TB | Richland Co. farmer. Hemoptysis, cough, abscessed lung, skin, chest wall. Autopsy 1-10-46. Blastomyces on culture and in tissue. | 0 | Died |
| 2 | 1-3-65 | 32, NM | Gen. | Very ill, copious bloody sputum with dense mass with cavity in rt. lung and left infiltration. Sputum culture + and fluorocine dye technique + at C.D.C. Skin tests neg. Downhill course until Rx with amphoteracin-B. | Ampho-B. | Well 1970 |
| 3 | 3-16-65 | 32, WM | Gen. | Central S.C. Asymptomatic coin lesion lingula. Resected specimen—yeast-like structure—probably blasto. Blasto and Coccidio. Skin tests +. | O | Well 6-11-65 |
| 4 | 10-10-62 | 70, NM | VA | Acute illness with death 10 days after admitted. Lung—dense consolidation with cavitation, skin sinuses. Skin smears—probably blasto. One sputum culture TBM +. Diagnosis doubtful. | 0 | Died |

## ACTINOMYCOSIS — 3 Cases

| Case No. | Adm. Date | Age, Race, & Sex | Hosp. | Clinical Notes | Drug | Result |
|---|---|---|---|---|---|---|
| 1 | 7-20-66 | 12, NF | Gen. | 3 mos. chest wall draining mass, rib periostitis pleural effusion. Sulfur granules + in pus and tissues. | Sulfa drugs plus Terramycin | Well fall 1967 |
| 2 | 10-22-64 | 43, NM | Gen. | Acute onset empyema with sulfa bodies in pus and actinomycosis-like organisms on gram stain. Rib resection. Clinical improvement. | Sulfa drugs plus penicillin | Died 2-'66 C.V.D. |
| 3 | 4-20-47 | 20, WM | TB | Appendicitis 1946 with wound drainage. Chest wall abscess drained Sept. 1946 by rib resection. I&D right chest March 1947. Cough and hemoptysis Feb. 1947. On admission draining chest wall, bilateral infiltrates lungs, ribs eroded. Dense mass appeared rt. lower chest. lethal course. Fungi identified in tissue sections. | Penicillin | Died 7-'47 |

## NOCARDIA

| Case No. | Adm. Date | Age, Race, & Sex | Hosp. | Clinical Notes | Drug | Result |
|---|---|---|---|---|---|---|
| 1 | E.H. 2-5-68 | 58, WF | Prov. | Hemoptysis 3 mos. X-ray density L.U.L. 1 x 3 cm. increasing in size L.U. lobectomy 2-7-68. Nocardia on culture reported after death two months post-op. Chills and fever, downhill course. Died five weeks later. Rx antibiotics, no sulfa. Autopsy — disseminated disease. | Antibiotic | Died |

## COCCIDIOIDOMYCOSIS — 5 Cases

| *Case No.* | *Adm. Date* | *Age, Race, & Sex* | *Hosp.* | *Clinical Notes* | *Drug* | *Result* |
|---|---|---|---|---|---|---|
| 1 | 11-6-59 | 52, NM | TB | Patient lived in S. C. Fever, cough, Aug. 1959. Oct. 1959 wedge excision 2 cm. cavity filled with caseous material R.U. lobe. No organisms found. Dissemination to skin, lungs, bone. Culture and biopsies neg. Dx very difficult. C.D.C. identified after death. | Anti-TB | Died 8-60 |
| 2 | 9-25-56 | M | VA | Face lesions 1956, Arizona. Misdiagnosed Blasto. Lung infiltrate. Dx by culture and comp. fixation tests at Duke and Walter Reed. Skin test +. | Ampho-B | Well 1964 |
| 3 | 6-17-63 | 26, NM | VA | 1960, Arizona, developed Coccidio. with lung infiltrates. Rx with 4 courses of Ampho-B. Died of disease. Dx — serology, culture, autopsy. | Ampho-B | Died 1963 |
| 4 | 10-27-65 | 34, NM | VA | Puerto Rico in 1964 with bilateral infiltrates, lungs. Hilar node enlargement, bone and skin lesions. Dx by culture and serology. Rx Ampho-B with good response. Still under treatment 11-65. | Ampho-B | Improved 1965 |
| 5 | 2-66 | 41, WM | Gen. | X-ray Texas, 1964, infiltrates in lingula. 1965 hemoptysis, cavitation. 2-24-66 lingulectomy. C.D.C. identified from surgical specimen. | 0 | Well Dec. 1967 |

## ASPERGILLOSIS — 8 Cases

| *Case* | *Adm.* | *Age, Race, & Sex* | *Hosp.* | *Clinical Notes* | *Drug* | *Result* |
|---|---|---|---|---|---|---|
| 1 | 7-14-62 | 25, NM | TB | Cough one year with fever, copious brownish-grey sputum. Died from hemorrhage. Autopsy—Heavy infiltrative disease with multiple cavities, bilaterally. Aspergillus histologically. Culture—aspergillus fumigatus. | Anti-TB | Died |
| 2 | 8-25-58 | 31, NM | TB | Chronic cavitary Tb, all Tb cultures negative on last admission. Died pulmonary hemorrhage. Autopsy—invasion of lung tissue by aspergillus. | Anti-TB | Died |
| 3 | 7-64 | 21, NM | TB | 1961 scalene node biopsy — Boeck's sarcoid. Progressive cavitation and fibrosis. Aspergillus glaucous in 3 sputum cultures. To S. C. Mental Hospital. | Anti-TB | Alive 1964 |
| 4 | 12-15-66 | 66, NM | TB | 1955-56 proven Tbc. In 1963 rounded mass in cavity in L.U. lobe, doubled in size 1967. Surgery advised and refused. | Anti-TB | Alive 12-67 |
| 5 | 10-5-62 | 41, WF | TB | Proven Tbc. 1940. "fungus ball" noted 1962 in large cavity. Ball moved about. Hemoptysis. Surgery not feasible. | Anti-TB | Alive 4-18-63 |
| 6 | 1-15-65 | 68, WM | TB | Group 3 atypical TB with bilateral cavities, 4 years. Rounded density like a fungus ball in cavity in L.U. lobe 1965. | Anti-TB | Alive 4-28-65 |

## ASPERGILLOSIS (Cont'd.)

| *Case No.* | *Adm. Date* | *Age, Race, & Sex* | *Hosp.* | *Clinical Notes* | *Drug* | *Result* |
|---|---|---|---|---|---|---|
| 7 | 3-31-66 | 51, WM | TB | Cavitary TB, active 1963. 1966 inactive but increasing dyspnea and density left lung. Thoracotomy — non-resectable, cavity filled with reddish-grey material suggestive of aspergillosis. | Anti-TB | Died |
| 8 | 5-6-60 | 41, WM | Gen. | Recurrent pneumonia 9 mos. Probable lymphoma. Autopsy — diffuse lung and pul. vessel invasion by aspergillosis and brain abscess with aspergilli. Miliary Tbc. and aspergillus fumigatus cultured. Also treated at Medical College of S. C. 5-22-60. | Broad spectrum & anti-tbc. antibiotics Nitrogen Mustard | Died 8-14-60 |

## MUCORMYCOSIS

| *Case No.* | *Adm. Date* | *Age, Race, & Sex* | *Hosp.* | *Clinical Notes* | *Drug* | *Result* |
|---|---|---|---|---|---|---|
| 1 | 3-4-66 | 64, WM | TB | Chronic lung disease, fibrosis 1956, hemotysis 1958. Resection of caseous cavity. Fungus in tissues. 1966 Stable x-ray. | 0 | Well 1966 |

### Cryptococcosis (Torulosis) 17 Cases

The Cryptococcus is a saprophyte in nature. Many sources of human infection no doubt exist. In a study conducted in Georgia, South Carolina, and North Carolina 50 percent of the specimens from pigeon habitats, 14 percent of rabbit pen samples, and 12 percent of samples from uninhabited buildings were positive for the organism.[1]

Cryptococcus neoformans almost always enters the body through the lungs. I has a strong predilection for the meninges and the meningitis produced is almost always fatal if untreated. A carrier state has been described in man and Tynes and his associates[2] postulate that some patients undergo sub-clinical infections. Cryptococcosis is not transmitted from man to man or from animal to man.

Sixteen of the 17 cases reported here were primary and one was secondary arising in a patient with Boeck's Sarcoid who was receiving steroids. Fifteen of the cases were previously reported.[3] Meningitis developed in six and caused death in three. No other patient died of cryptococcosis. The clinical picture was inconspicuous except in the three patients who were admitted with meningitis and one who probably died with meningitis. Mild cough and chest pain were common. Rales were heard only in the very ill patients with meningitis. Characteristic roentgenologic findings were absent, adding to the diagnostic difficulties. Five roentgenologic pictures (Figures 1-5) were seen: infiltration in nine cases, a tumor-like mass in four, a discrete nodule in one, a thin-walled cavity in one, and the rare miliary type in one. Cavitation occurred in four of the primary cases. The disease had been present on roentgenograms up to one year before the diagnosis was made in one case. Campbell[4] stated that in 17 percent of cases the lesion was visible for 18 months or longer.

The diagnosis was difficult in all patients. The majority of the diagnoses were made at autopsy or at thoracotomy by stains or cultures. Neither sputum nor bronchial washings were the primary source of diagnosis in any. Skin tests are of no practical value. Serological tests are of value in diagnosis and prognosis.[5,6] Maximum serologic diagnosis is accomplished through concurrent use of three tests: Latex agglutination, indirect flourescent



**Figure 1.—Cryptococcosis, Case 10, shows infiltration.**



**Figure 2.—Cryptococcosis, Case 4, shows mass lesion in left lower lobe.**



**Figure 3.—Cryptococcosis, Case 6, nodular lesion in right lower lobe.**




**Figure 4.—Cryptococcosis, Case 9, shows thin-walled cavity in left upper lobe.**

antibody, and tube agglutination. These give a high percentage of presumptive diagnoses. These tests were not employed here.

Therapy depends to some extent on an assessment of the disease's activity in each patient. Activity is characterized by spread beyond the lungs, progressive spread within the lungs, the presence of pulmonic and systemic symptoms, positive cultures of sputum, bronchial washings or biopsy specimens, and in primary cases the presence of cavitation. Surgery was the only effective treatment before the discovery of Amphoteracin-B with cures resulting in about 90 percent of the cases in which local lesions were resected. When the lesion is focal, resection in many is still indicated, in the author's opinion, to prevent further spread. If there is evidence of activity, then the need for resection is more urgent. Stable or slowly enlarging lesions some physicians do not treat, but follow by performing periodic spinal taps. Amphoteracin-B is indicated in widely disseminated disease, meningitis and in pulmonary cryptococcosis where steroids are used, but there is no general agreement on other indications.

A new drug 5-Fluorocytosine[7] appears to be almost as effective as amphoteracin-B, has little toxicity, and is taken orally. It was used effectively in case 17 of this series. Probably it is indicated in all cases. Hopefully, it will simplify many therapeutic dilemmas in cryptococcosis.

### Histoplasmosis — Active Cases 4

The four patients with active histoplasmosis probably became infected in South Carolina. All were from the western half of the state. Three cases were of the chronic form and one (Case 1) was acute and disseminated. The diagnosis was often very difficult. Only once was the organism seen or cultured. Scalene node biopsy, and skin and serologic tests were important in the diagnosis. Three patients gradually recovered without specific treatment while one required Amphoteracin-B. One of the patients was from Greenwood and became ill during the Greenwood epidemic in 1962. He was evidently overlooked in the extensive study of this epidemic by Sellers, et al.[8] This outbreak was probably caused by dust from ground cleared in preparation of a golf course in an area of

starling roosts. There were probably several thousand primary cases, many associated with erythema multiforme. South Carolina has a low rate of histoplasmosis sensitivity (2 percent). However, 39 percent of high school students in Greenwood were positive. In 28 patients chest x-ray films were taken and in six there were pulmonary infiltrates which cleared completely in a few weeks. No chronic pulmonary cases were found by Sellers et al. However, the above patient from Greenwood evidently was one such.

Since this review, Dr. Norman Sollod[9] in 1968 admitted three cases of acute disseminated histoplasmosis to the Columbia Veterans' Hospital. They were all from Laurens and exposed to dust from bird roosts. One died and the other two were treated with Amphoteracin-B and survived. Apparently there was an outbreak involving many people in Laurens County similar to the Greenwood epidemic. Also, at the South Carolina Tuberculosis Sanatorium three additional cases of chronic histoplasmosis have been diagnosed and treated with Amphoteracin-B. One died and the other two were not doing well. One was from east of Columbia.

### Histoplasmosis — Inactive Cases

Eight inactive cases were diagnosed, usually by a combination of calcified pulmonary lesions associated with a positive histoplasmosis skin test and a negative tuberculin test.

One of these patients is of interest and illustrates a rare late complication of calcified lymph nodes. This old lady presented with hemoptysis. Bronchoscopy revealed a granulating area in the right mainstem bronchus. Before leaving the hospital she coughed up a broncholith and a few weeks afterwards died of a massive pulmonary hemorrhage from this area.

### Blastomycosis — 4 Cases

These four cases illustrate the fatal trend in the established form of blastomycosis, the remarkable effect of Amphoteracin-B on its progression, and the great difficulty in pinning down the diagnosis. All of these patients were from South Carolina and were probably



**Figure 5.—Cryptococcosis, Case 16, shows rare miliary picture and hilar calcification.**

exposed to the fungus here. The South is an endemic area. Most of the cases in South Carolina came from the eastern sandy portion. In 1956 six cases from South Carolina were collected by the author and five lived east of Columbia. In the four additional cases in the present review the same pattern is evident. Dr. E. A. Dreskin[10] found one certain and only one probable case in the files of the Greenville General Hospital. However, Furcolow et al.[11] say that in endemic areas Blastomycosis can be found wherever there is interest in the subject. So, we must keep it in mind.

### Actinomycetales

In this review two diseases caused by actinomycetales were found, actinomycosis and nocardiosis. The actinomyces are anerobic whereas the nocardia are aerobic. It is undecided whether they are bacteria or fungi, but they are classified as fungi. Like bacteria they are sensitive to sulfonamides and antibiotics and often produce suppuration. Both diseases frequently involve the pleura in contrast to the other fungi.

### Actinomycosis — 3 Cases

Three cases of actinomycosis were found in

Columbia and eharaeteristically they all involved the pleura. Two had ehest wall sinuses and in one there was severe destruetion of the ehest wall, ribs, pleura and lungs.

In about 15 pereent of all eases of aetinomyeosis the thoracie organs are involved. As a rule the pulmonary involvement remains insignificant, but the pleural and thoraeie wall involvement is prominent.

Actinomyees israli is a normal inhabitant of the mouth and is unique in that it has never been found in nature, that is, outside of animals. The thoraeic form of the disease seems to be due to bronehopulmonary invasion of infectious material from the oropharynx produeing pulmonary involvement. It can be indolent and ean eall attention to itself only after pleural or ehest wall disease beeomes apparent. Thus, sinuses and empyema are usually late stages of pulmonary infiltration, consolidation, or a hilar mass. Cavitation in the lung sometimes oecurs. Actinomyeosis is now being reported as aecompanying mononueleosis and moniliasis.

Identity of the agent is by sulfa bodies, stains, and eultures under anerobie eonditions. Sulfa bodies ean oceur with eonditions other than actinomycosis. Sinee the fungus is a normal inhabitant of the oral eavity, the diagnosis eannot be made from sputum alone. It must be recovered from elosed tissue spaces, from sinuses, or from abseesses, or it must be shown to be invasive in tissue sections. Serologic tests are of some confirmatory value.

The drug of ehoiee is usually penieillin but the organism is often sensitive to other antibioties, too. Drainage of pus and resectional proeedures are useful. When pulmonary resection is employed, it is usually under the mistaken impression that the lesion is a careinoma.

### Nocardiosis — 1 Case

Only one patient with noeardiosis was found in Columbia and she ran the usual fatal course of those undiagnosed and untreated with sulfonamides. A small pulmonary mass was resected, but two months later dissemination took plaee with the development of multiple abseesses ending in death. Noeardia was not eultured until after death, so that sulfadiazine was not used in the treatment.

The diagnosis is established by eulture and the correet diagnosis is essential so that sulfadiazine ean be used in this dangerous disease. However, the mere presence of the fungus in the sputum is not diagnostic of the disease because the organism ean reside as a saprophyte in the traeheo-bronehial tree. It can aet as an opportunist, also.

Clinically, it aets much like aetinomycosis but tends to disseminate. It forms empyema in about 25 pereent of cases. Like eryptococossis it tends to invade the central nervous system wherc it produees brain abseesses. Like aspergillosis, it ean produee fungus balls in pulmonary eavities. It is one of the rarest fungus diseases.

### Coccidioidomycosis — 5 Cases

Four of these five eases had lived in the southwestern United States. However, a eolored male, had never left South Carolina with the possible exeeption of a trip to Georgia (Case 1). It is extremely rare for this infeetion to be eontracted in this region.

The diagnosis was often very difficult. One patient was treated for tubereulosis and the proper diagnosis was made only after death despite painstaking efforts to find fungi. A seeond was diagnosed as blastomyeosis and reeeived the stilbamidines for that disease until the proper identifieation was finally made. In a third the organism was identified from a resected eavitary lesion. Cavities were present in the two localized lesions reseeted at surgery.

Disseminated progressive disease was present in four. Amphoteracin-B arrested the disease in two of these but failed to do so in one, who died. A stable, localized mass in the lingula was present in one man. Reseetion was performed and he has remained well without specific drug therapy.

### Aspergillosis — 8 Cases

The aspergillus has the bizarre habit of making its nest in pulmonary cavities produeed by other diseases and forming a ball therein. Seven of these eight eases were of this type. These seven were found in the South Carolina Tubereulosis Sanatorium. A fungus ball, or aspergilloma is formed of

necrotic, matted hyphae, fibrin, and cells. It is red-brown to grey and often lies free in the cavity. A ball in a cavity, especially if it moves about, is almost pathognomonic though can be produced also by nocardiosis. Hemoptysis was exhibited by most of these patients, one dying from hemoptysis and another undergoing thoracotomy for this symptom.

In addition to these aspergillomas, one case of the opportunistic invasive type was encountered and was rather characteristic (Case 8). He had miliary tuberculosis and probably Hodgkins' disease also, was treated with antituberculous drugs, broad spectrum antibiotics, nitrogen mustard, and steroids. Autopsy revealed this fungus invading pulmonary vessels and in a brain abscess. This type seems to be increasing with the use of antibiotics, steroids and other debilitating therapeutic modalities. A third clinical type, aspergillus bronchitis was not encountered.

The diagnosis is usually made when the x-ray examination shows a ball in a cavity and is more certain if the organism shows up on stain or on culture, or if tissue shows invasion. Medical management has not been satisfactory. Endobronchial instillation of Amphoteracin-B and Potassium Iodide has been advocated. Pulmonary resection is usually curative of hemoptysis. At the South Carolina Tuberculosis Sanatorium resection has been advised only for aspergillomas producing hemoptysis. Others have advocated resection in asymptomatic aspergillomas in order to prevent the possibility of opportunistic invasive infection.

### Mucormycosis

This is a rare and serious disease characterized by blood vessel invasion, thrombosis, and infarction. Debilitated persons and diabetics seem to be prone. Our one case had a right upper lobectomy in Greenville General Hospital, later had hemoptysis and was sent to the South Carolina Tuberculosis Sanatorium where the disease was found to be inactive. Excision had controlled the disease and Amphoteracin-B was not needed.

### Discussion and Summary

The accumulation of 57 cases of pulmonary fungi in Columbia, most within a decade, points to the increasing frequency of these diseases. Whether this increased incidence is real or apparent is not known. However, the author doubts that many such cases were being missed ten years ago and believes that there is probably a true increase. It is interesting to speculate about this. Perhaps this increase is related to the combined population explosion of human beings, starlings and pigeons in South Carolina. Pigeons carry the Cryptococcus and starlings Histoplasma in their excreta. These birds congregate about human habitations thus creating fertile conditions for human infection .

The most significant finding in this study is the surprising predominence of pulmonary cryptococcosis. Since 1963 more cases of primary cryptococcosis were found than all other pulmonary mycoses combined. Sixteen of the 17 cases occurred in a seven year period. These patients came from all parts of the state. With surgery, Amphoteracin-B, and 5-Fluorocytosine all patients survived except for three having meningitis. From Atlanta 24 cases of primary pulmonary cryptococcosis were recently reported.[6] In the United States the number of deaths attributed to cryptococcosis from 1952 to 1963 was 788 as compared to 820 deaths attributed to histoplasmosis.[12]

Histoplasmosis in Columbia takes second place with 10 active cases. It was encountered in the chronic and in the disseminated forms in about equal numbers. All except one were from the western half of the state. In this state it has been rare, but is now found in South Carolina not infrequently as epidemics or as isolated cases.

In the general hospitals blastomycosis takes third place with four cases. In the South Carolina Tuberculosis Sanatorium however, aspergillosis leads with seven cases of fungus balls, no aspergillomas being found in the general hospitals.

Opportunistic infection, a term meaning invasion by a fungus of a patient already unhealthy from other causes such as cancer and diabetes, was rare with the exception of the seven aspergillomas. There was one case of sarcoidosis under treatment with steroids

which was complicated by cryptococcosis secondarily (Case 8). Another patient with miliary tuberculosis and probably also Hodgkins' Disease under treatment with steroids, anti-tuberculous chemotherapy and nitrogen mustard had superimposed the invasive type of aspergillosis (Case 8). Candida infections were not searched for in this study and none came to light. The increased use of irradiation, chemotherapy, antibioties, immunosuppressive drugs, and steroids all create opportunities for invasion. The clinician should therefore be on the alert for this complication.

When, in these patients one observes a fatal course reversed after an accurate diagnosis is finally made, the overriding value of the painstaking efforts necessary to yield this diagnosis is forcefully brought home. An accurate diagnosis must be made.

## Addendum

A case of primary cryptoeoccosis was treated in a general hospital by lobectomy in 1971.

A case of disseminated nocardiosis was treated at the South Carolina Tuberculosis Sanatarium in 1971 and was diagnosed at autopsy.

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# MEDICAL MALPRACTICE SURVEY

WILLIAM F. FAIREY, M. D.

Because of the recent national interest in medical malpractice, as reflected by the Ribicoff hearings of 1970, and due to subsurface rumblings from the physicians of South Carolina toward the increased cost of malpractice insurance, a survey was recently undertaken to determine generally the status of malpractice cases in South Carolina, the trend of premiums, and the attitudes of the physicians towards this everchanging problem.

This interest was further stimulated by the fact that there is no central agency in South Carolina which compiles complete data on claims brought against physicians and on the disposition of these cases by settlement, trial, or patient's failure to proceed with his threat of suit. In spite of the valuable cooperation of the Insurance Department of South Carolina, complete and continuing information is not available from this source. Although their records do not fully reflect claims, losses and premiums, the following data was provided by the South Carolina Insurance Department for the years 1964-1968. (See Page 14)

In spite of this seeming 100% profit by the insurance companies, it was learned that insurance agents' fees and insurance companies' costs must be deducted from this gross figure of $958,000, and that reserves must be established out of these funds for actual claims already made against the insurance companies and for potential claims that still may arise against the insurance reserves for this period, inasmuch as there is in South Carolina a Statute of Limitations of six years during which period of time any action in tort (any "wrong", which includes medical malpractice,) may be brought.

The most astounding revelation from this phase of the inquiry, however, is that the amount of premiums paid by the physicians in South Carolina is not based exclusively on the experience within the State, but is based on the insurance company's experience in the several states in which it does business. Based on its experience in these states, the insurance company may request of the South Carolina Insurance Commission an increase in its South Carolina rates. This procedure is in the form of a public hearing with the burden being placed upon the insurance company to establish and prove the need for an increase. Notice of such hearing is offered publicly wherein any person may appear and give argument for or against any rate increase. To date, there has been little or no response by the physician to these hearings; but, because of the difficulty on the part of the Insurance Department to obtain even limited data as listed hereinabove, and the difficulty in gathering relevant material on the status of professional malpractice in South Carolina, it is no wonder that the SCMA, (much less an individual physician,) could find the wherewithal to pose other than general arguments against proposed increases at these hearings. No criticism is intended against the Insurance Department because, in spite of what must be a generalized approach to evaluating increases, the Department apparently has been fair in balancing the regional experiences of the insurance company against the local experience of the South Carolina physicians; however, the lack of a valid source of reliable

1. This survey is the result of a questionnaire mailed to each physician actively practicing medicine in 1971.

2. Assistance in mailing and mimeographing the questionnaire was provided by the South Carolina Medical Association and by the South Carolina Regional Medical Program.

3. The format for the survey was adapted from *The Resident and Staff Physician Magazine* with their permission.

4. This report was recently made to The Council of the South Carolina Medical Association.

| | | |
|---|---|---|
| A. During the years 1964-68, claims were paid in the amount of | | $500,000 |
| 1. 53 claims paid on behalf of doctors | $390,000 | |
| 2. 19 claims paid on behalf of hospitals | 31,000 | |
| 3. 13 claims paid on behalf of lawyers | 22,000 | |
| 4. 16 claims paid on behalf of dentists | 57,000 | |
| B. During the years 1964-68, premiums paid amounted to | | $958,000 |
| 1. premiums paid by doctors | $640,000 | |
| 2. premiums paid by hospitals | 183,000 | |
| 3. premiums paid by lawyers | 75,000 | |
| 4. premiums paid by dentists | 60,000 | |

data remains a disturbing factor.

If the specific information as to type of claim and individual disposition of the same could not be obtained from the insurance companies or from the Insurance Department, it was hoped that a survey of the physicians of this State might provide other factors on which to determine a trend.

The numerical response of the physicians to the survey is excellent and a 45% response (810 responses to 1800 mailings) indicates that the physicians of the State are vitally interested in medical malpractice, and are alert to the potential legal dangers in practicing medicine even in the relatively favorable medical-legal climate of South Carolina. However, many South Carolina physicians who have been involved in litigation apparently did not respond to the survey because of the $390,000 in claims (and this represents a minimum figure) paid by the insurance companies on behalf of physicians during the years 1964-68 as reported by the Insurance Department (see above), only $23,500 was reported for this same period in the present survey. Therefore, included in the unresponsive 55% is valuable experience, advice, and apparently disillusionment which has not been made available to the remaining unwashed and untried who through good fortune have avoided such involvement.

On absolute and statistical bases, no conclusions can be drawn because the survey was subjective in context; however, some of the goals were obtained, and certain generalities can be made. Following is a report on the specific findings:

I. Refer to Table (I). These are figures the physicians themselves reported as their premiums for malpractice insurance; a few were probably related from memory, some very likely included comprehensive policies; such as, home, auto, etc. However, there is sufficient consistency to establish a guideline of cost in most of the specialty areas.

*Conclusions:*

1. There is a significant difference in the premiums paid by the individual physicians in the same and in different geographical locations, apparently due to the variety of companies utilized in a given area and the company's respective experience and activity. Each physician would do well to note his specialty and to determine whether or not the premium he is presently paying is consistent with that of his colleagues.

2. The premiums paid are not geared to population. That is, there is no significant difference between rural and urban rates per se.

3. Consistent with the national trend, orthopods pay the highest rates followed closely by neurosurgeons, anesthesiologists, ENT, otolaryngologists, plastic and general surgeons. The smaller premiums were paid by those specialties whose medical duties inherently involve careful evaluation without instrumentation, that is, those least conducive to medical error, for example internal medicine, neurology, pediatrics.

4. With 45% of the physicians reporting $228,000 in premiums (Refer to Table I), a projection to 100% gives a probable premium of $500,000 per year paid by the physicians of South Carolina for the year 1971. This figure for one year does not compare realistically

## TABLE I—PREMIUMS REPORTEDLY PAID BY S. C. PHYSICIANS

| Population | >80,000 | | | | 40,000 - 80,000 | | | | 20,000 - 40,000 | | | | Less than 20,000 | | | | | Avg. Prem. Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Specialty | Hi | Lo | Avg | Rep No | Hi | Lo | Avg | Rep No | Hi | Lo | Avg | Rep No | Hi | Lo | Avg | Rep No | # Report. Total | |
| | $ | | | | $ | | | | $ | | | | $ | | | | | |
| Fam. Pract. | 700 | 50 | 110 | 47 | 400 | 60 | 240 | 15 | 300 | 33 | 128 | 31 | 600 | 50 | 250 | 150 | 243 | 50,200 |
| Gen. Surg. | 1100 | 175 | 430 | 41 | 800 | 750 | 340 | 13 | 850 | 200 | 550 | 17 | 405 | 50 | 185 | 22 | 93 | 32,600 |
| Int. Med. | 350 | 50 | 120 | 47 | 330 | 60 | 150 | 13 | 150 | 125 | 130 | 5 | 300 | 50 | 185 | 9 | 74 | 9,900 |
| Ob-Gyn. | 1000 | 80 | 420 | 31 | 600 | 180 | 420 | 16 | 800 | 400 | 500 | 6 | 900 | 600 | 760 | 6 | 59 | 19,750 |
| Pediatrics | 250 | 70 | 110 | 18 | 300 | 80 | 130 | 14 | 250 | 83 | 110 | 11 | 350 | 150 | 200 | 3 | 46 | 5,600 |
| Ophthal. | 700 | 300 | 430 | 17 | 600 | 256 | 440 | 6 | 450 | 150 | 330 | 5 | 550 | 325 | 440 | 5 | 33 | 13,800 |
| Radiology | 350 | 100 | 290 | 11 | 340 | 300 | 320 | 10 | 425 | 160 | 220 | 7 | 180 | 100 | 140 | 4 | 32 | 8,500 |
| Urology | 600 | 300 | 250 | 10 | 900 | 350 | 570 | 4 | 240 | 240 | 240 | 1 | 720 | 200 | 435 | 17 | 32 | 7,400 |
| Anesthes. | 900 | 450 | 710 | 16 | 800 | 100 | 544 | 5 | 800 | 100 | 500 | 5 | 1000 | 60 | 530 | 2 | 28 | 17,680 |
| Orthopedics | 2000 | 280 | 790 | 16 | 800 | 700 | 750 | 6 | 366 | 366 | 366 | 3 | | | | | 25 | 18,250 |
| Pathology | 250 | 50 | 150 | 14 | 300 | 100 | 375 | 4 | 500 | 250 | 250 | 4 | 300 | 150 | 230 | 3 | 25 | 5,300 |
| Psychiatry | 500 | 70 | 180 | 19 | 350 | 200 | 275 | 2 | | | | | 200 | 200 | 200 | 1 | 22 | 4,150 |
| Thor. Surg. | 700 | 190 | 460 | 16 | 312 | 312 | 312 | 4 | 500 | 500 | 500 | 1 | 525 | 525 | 525 | 1 | 22 | 9,680 |
| Neur. Surg. | 1300 | 450 | 775 | 14 | 700 | 700 | 700 | 2 | | | | | | | | | 16 | 12,280 |
| Dermatology | 300 | 100 | 235 | 9 | 350 | 350 | 350 | 3 | 300 | 300 | 300 | 1 | | | | | 13 | 4,000 |
| Neurology | 160 | 50 | 120 | 9 | | | | | | | | | | | | | 9 | 1,080 |
| Otolaryng. | 1000 | 200 | 466 | 6 | 500 | 300 | 400 | 2 | 275 | 275 | 275 | 1 | | | | | 9 | 3,850 |
| Pub. Health | 50 | 50 | 50 | 7 | | | | | | | | 1 | | | | 1 | 9 | 350 |
| ENT | 550 | 550 | 550 | 2 | 550 | 250 | 400 | 2 | 370 | 370 | 370 | 1 | | | | | 5 | 2,250 |
| Industrial | | | | | | | | | | | | 2 | 250 | 250 | 250 | 2 | 4 | 500 |
| Plastic | 580 | 300 | 430 | 4 | | | | | | | | | | | | | 4 | 1,720 |
| Occupational | 100 | 100 | 100 | 1 | | | | | | | | 1 | | | | | 2 | 100 |
| Prevent. Med. | 50 | 50 | 50 | 1 | | | | | | | | | | | | | 1 | 50 |
| Total Reporting | | | | 316 | | | | 121 | | | | 103 | | | | 226 | 806 | 228,960 |

Avg. overall prem. $284.00

Hi — The highest premium reported.
Lo — The lowest premium reported.
Rep No — The number of physicians reporting.

## TABLE II—SUIT THREATENED BUT NEVER PRESSED

| Population | Greater than 80,000 | | | 40,000 - 80,000 | | | 20,000 - 40,000 | | | Less than 20,000 | | | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Specialty | Why** Dism. | Year | Basis* | Why** Dism. | Year | Basis* | Why** Dism. | Year | Basis* | Why** Dism. | Year | Basis* | |
| Fam. Pract. | C | 1951 | 4 | E | 1965 | — | D | 1969 | 1 | B | 1966 | 7 | |
| | B | 1952 | 1 | | | | O | 1962 | 7 | B | 1958 | 1 | |
| | L | 1968 | 4 | | | | | | | B | 1970 | 2 | |
| | | | | | | | | | | — | 1939 | 7 | |
| | | | | | | | | | | A | 1956 | 7 | |
| | | | | | | | | | | B | 1960 | 4 | |
| | | | | | | | | | | C | 1965 | 1 | |
| | | | | | | | | | | — | 1958 | 11 | |
| | | | | | | | | | | — | 1969 | 1 | |
| | | | | | | | | | | — | 1969 | 1 | |
| | | | | | | | | | | E | ..... | 13 | |
| | | | | | | | | | | B | 1950 | 6 | |
| | | | | | | | | | | F | 1958 | 13 | |
| | | | | | | | | | | E | 1961 | 1 | 20 |
| Gen. Surg. | — | 1965 | 1 | E | 1960 | 1 | | | | G | 1961 | 2 | |
| | — | ..... | 12 | B | ..... | 1 | | | | G | 1970 | 7 | |
| | H | 1950 | 1 | — | 1960 | 3 | | | | G | 1970 | 11 | |
| | — | 1963 | 1 | | | | | | | — | 1965 | — | |
| | | | | | | | | | | I, E | 1956 | 6 | 12 |
| Pediatrics | E | 1969 | — | E | 1969 | 11 | | | | | | | |
| | G | 1969 | — | G | 1968 | 10 | | | | | | | |
| | B | 1959 | 7 | B | 1970 | 10 | | | | | | | |
| | | | | B | 1967 | 4 | | | | | | | 7 |
| Int. Medicine | E | 1958 | 9 | | | | | | | | | | |
| | B, K | 1966 | 11 | | | | | | | | | | |
| | B | 1970 | 4 | | | | | | | | | | 3 |
| GTS | J | 1960 | 4 | | | | | | | | | | 1 |
| ORS | | | | | | | B | 1956 | 12 | | | | 1 |
| Urology | G | 1969 | 12 | B | 1959 | 1 | | | | | | | 2 |
| Anesthes. | E | 1955 | 3 | | | | | | | | | | 1 |
| Neurol. | K | 1960 | 9 | | | | | | | | | | 1 |
| ER | | | | G | 1952 | 4 | | | | | | | |
| | | | | L | 1964 | 11 | | | | | | | 2 |
| Radiology | G | 1968 | 9 | | | | G | 1970 | 6 | | | | 2 |
| OB-GYN | I | 1969 | 12 | | | | | | | | | | 1 |
| Ophthal. | | | | M | 1966 | 1 | | | | | | | 1 |
| Orthopedics | | | | B | 1967 | 1 | | | | | | | 1 |
| TOTALS | | 19 | | | 13 | | | 4 | | | 19 | | 55 |

No Recovery — 55
Recovery 0

*See attached appendix A
**See attached appendix B

with the $640,000 total premiums paid by the physicians for the *five* year period (1964-1968) as reported by the Insurance Department hereinabove indicating again that the insurance department's data is incomplete.

II. (Ref. Table II) Suits threatened but never pressed — this category is comprised substantially of threats without legitimate basis due to the disgruntled patient, or due possibly to poor rapport between the doctor and the patient. The threat may be real, but the legal circumstances are questionable. The cost to the physician in time and worry may be intense and the insurance company may incur certain expenses for investigative and consultative services which are reflected in increased rates.

*Conclusions:*

1. By referring to Table II, the left hand column contains capital letters which denote reasons for dismissal as found in Table IIA. Most cases were not pursued due to B ("no legal justification") and G ("no further action taken by patient or attorney") which implies no legal justification.

2. The right-hand column in Table II contains Arabic numbers which are found in Appendix A — listed below each number is the patient's complaint, real or imagined.

3. Most complaints involved #1 ("operative or postoperative complications"), #4 ("maltreatment or poor results") and #7 ("infants and children") run well behind. Operative procedures are not a surprising source for complications because of lack of understanding of the procedures by the patient or because of inherent risks involving instrumentation and potential negligence of paramedical personnel.

4. Section 0, under "Why Dismissed" will apply to many physicians, i.e. "lucky."

5. A surprisingly large number of threats against general practitioners in small communities is noted.
(This partially accounted for the disproportionately excellent response by the general practitioners to this survey).

6. The Table II-A "Why dismissed" provides several good examples for prophylaxis against medical-legal entanglements.

**TABLE II—WHY DISMISSED**

| | |
|---|---|
| A | Statute of Limitations (6 years in S. C.) |
| B | No legal justification |
| C | Contributory negligence of patient |
| D | No damages established |
| E | Good rapport with patient — willingness to discuss |
| F | Could not obtain legal representation |
| G | No further action taken by patient or attorney |
| H | Introgenic injury corrected |
| I | Good records |
| J | Informed consent |
| K | Assistance of insurance company |
| L | Charitable immunity of hospital or sovereign immunity of state |
| M | Reassurance of consultant |
| N | M. D. discontinued trying to collect his fee |
| O | Lucky! |

| *Complaint of Patient* | *Disposition of Case* |
|---|---|
| 1. Operative or post-op complication | |
| Leaving vaginal pack in after D&C | R |
| Bladder fistula | O |
| Vaginal fistula | O |
| Premature separation of membrane and stillbirth | O |
| Pregnancy following tubal ligation | O |
| Perforation of uterus at D&C | O |
| Retained placenta and ruptured uterus | O |
| Knocked out tooth (2) | R, R |
| Post-op obstruction right ureter — 3 years later suit for left kidney failure | R |
| Ureter injury | R |
| Ureter injury during removal of stone | P |
| Burn to face during operation | R |
| Penrose drain broken off when removing post-op (2) | R, R |
| Bovie burn | R |
| Mis-wording of operative procedure | R |
| Operating on wrong toe | R |
| Infection of eye post-tonsillectomy | O |
| Lymph node biopsy with residual palsey (corrected) | O |
| Gastrectomy, dehiscense, death | O |
| Vascular complication at operation, death | P |
| CVA two days post-op | P |
| Loss of leg, trauma | O |
| Needle left in wound | O |
| Incontinence secondary to repair peri-rectal abscess | O |
| Wound infection (2) | O, O |
| Death following cardiac surgery — unsuspected hemorrhagic pancreatitis | O |
| Post-op incontinence | O |
| Death following post-op complications | O |
| Disfigurement secondary to biopsy | O |
| Hernia following appendectomy | O |
| Cellulitis following removal of toenail | O |
| Sponge left in abdomen | P |
| 2. Contract | |
| Refusal by M. D. to sign insurance authorization on "insurance conscious" patient | O |
| Refusal to give records to patient | O |
| 3. Anesthetic injury | |
| Patient dying under anesthesia | R |
| Cardiac arrest in O. R. — surgeon sued was scrubbing | O |
| Decubitus ulcer from heating pad | R |
| Back injury from spinal | O |
| 4. Mistreatment or poor results | |
| Treatment of nosebleed with resultant necrosis | R |
| Control of infection | O |
| Treatment of acid burns | O |
| Paralysis from tourniquet on arm | O |
| Death from gas gangrene | O |
| Burn from diathermy | O |
| Poor results (2) | O, O |
| Psychiatric patient — hysteria | O |
| Dissatisfaction with rhinoplasty | O |
| Vasectomy with negative sperm count x2, post-op, wife pregnant | O |

| *Complaint of Patient* | *Disposition of Case* |
|---|---|
| 5. Improper commitment to State Hospital | |
| Commitment of regular patient but did not see on date of commitment | R |
| Signing commitment without seeing patient for 15 days | R |
| False commitment (conspiracy) | O |
| Jailed patient committed to State Hospital | O |
| 6. Misdiagnosis | |
| Drug influence vs. perforated ulcer | O |
| Mentally disturbed patient seen in consultation — jailed and died | O |
| Failure to report tooth in lung on x-ray | O |
| False pregnancy diagnosis | O |
| Pregnancy vs. uterine tumor | O |
| Laparotomy of pregnancy | O |
| Failure to perform myelogram | O |
| 7. Infant and Children | |
| Hospital nursery rash | O |
| Oxygen to premature with resultant retrolental hyperplasia | P |
| Not treating newborn with bilirubinemia | O |
| Misdiagnosis and treatment of child with burns | P |
| Suture granuloma at ankle cut-down site | O |
| Thermal burns during transfusion exchange | O |
| Death of child after family insisted on consultant who was obtained | O |
| Death of child from meningiococcemia | P, O |
| Congenital leg dislocation | O |
| Poor medical judgment, death | O |
| 8. Bone | |
| Atrophy of wrist following treatment of Colle's fracture | O |
| Non-Union of fracture (wrist, femur, other) | O, P, O |
| Fracture of metatarsal bone | R |
| Fracture of wrist with residual | O |
| 9. Diagnostic procedures | |
| Perforation of esophagus (2) | P, R |
| Residual pain following myelogram | O |
| Thrombosis of retinal artery after dilating pupil | O |
| Colon rupture during B/E | R, P |
| Foot board on x-ray table fell | R |
| Complication of arteriography | O |
| | O |
| 10. Hospitalization | |
| Failure to hospitalize for glass in eye | O |
| Failure to send child home from hospital | O |
| Hospitalized child coughed up previously aspirated foreign body with resultant obstruction | O |
| 11. Drugs | |
| Wrong drug used by office nurse | R |
| Paralysis of leg from injection | O |
| Excess medication in hospital | O |
| IV Talwin with loss of use of limb | R |
| On injection by office nurse with radial nerve injury | R |
| Nerve injury after brachial block | O |
| Fat necrosis of muscle secondary to Kenalog injection | R |
| Tetanus not given in office but ordered later in hospital | O |
| E. R. nurse injected Phenergan with radial nerve injury | O |
| Allergic reaction to penicillin | O |

| *Complaint of Patient* | *Disposition of Case* |
|---|---|
| Allergic reaction to allergy testing | O |
| Allergic reaction to topical merthiolate prep | O |
| 12. Abandonment or failure to treat | |
| Abandonment and failure to perform Coombs and RH | O |
| Death due to abandonment — covering M. D. did not see regularly | O |
| Abandonment to partner | O |
| Abandonment due to improper diagnosis | O |
| Abandonment of OB patient | O |
| Failure to treat undesirable patient | O |
| 13. Consent | |
| No informed consent | P |
| Bilateral oophorectomy without consent | O |
| No consent for sterilization — by husband | O |
| Treatment of child, no consent | O |
| Failure to represent operation to be performed | O |
| Circumcision consent | O |
| TOTALS | 116 |

| | |
|---|---|
| O—No Recovery | 82 |
| R—Recovery | 24 |
| P—Pending | 10 |

III. If the threat culminates in negotiation and settlement or trial without settlement, the case falls within Table III, "Settled without Trial". The Arabic numeral in the right side of the column again refers to the numbers in Appendix A.

*Conclusions:*

1. Not surprising, all suits were settled for less than $10,000 except one for $45,000, very likely there are valid reasons for this one case as there must be for settling cases without trial in excess of $10,000. (A recent case in California was settled for $875,000 and the defense considered this a bargain!)

2. Again most cases involved operative or postoperative complications with #9 ("diagnostic procedures") running a surprising but distant second place.

3. By population and by specialty, there is an insufficient number of reported cases to establish any conclusions except that operative and postoperative claims are generally spread through all the operative specialties.

IV: A suit is brought and comes to trial (refer to Table IV). The left hand column refers to the disposition of the case O — no recovery, P — pending, R — recovery) and the right hand column refers to the numbers listed in Appendix A.

*Conclusions:*

1. Almost all of these suits were concluded by jury verdict. Only four recoveries out of 25 cases, for a 16% recovery rate, is noted; therefore, the plaintiff-patient is not faring well when he does get before a jury, again indicating the potential fairness of the jury system, and that the medical profession still holds a certain degree of stature among its lay peers.

2. Surgical procedures still lead the list in cases for *claims,* although no recoveries are noted in this category; however, several cases are pending. "Infant and Children Cases" and "Drugs" also are problem areas.

3. Apparently drugs should be of real concern, especially where the office nurse has been delegated the duty of administering same. Special care in stocking drugs and instructing nurses in administering the drugs should be taken. A large percentage of recoverics are observed under this category as well as the largest single award ($75,000) in this survey.

4. A surprising number of suits against family practitioners in small communities is again noted.

By reference to Appendix A, it is interesting to note the variety of complaints made by the

## TABLE III—SETTLED WITHOUT TRIAL

| Population | >80,000 | | | 40,000 - 80,000 | | | 20,000 - 40,000 | | | Less than 20,000 | | | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Specialty | Recovery | Year | Bas | Recovery | Year | Bas | Recovery | Year | Bas | Recovery | Year | Bas | |
| Gen. Surg. | $ 750.00 | 1951 | 1 | $5000.00 | 1960 | 3 | $ | | | $ | | | $ |
| | settled | | 1 | | | | | | | | | | |
| | 4000.00 | 1960 | 1 | | | | | | | | | | 9750.00 |
| Fam. Pract. | | | | 7000.00 | 1970 | 5 | | | | 1200.00 | 1960 | 1 | 8200.00 |
| F.P. &G.S. | | | | | | | 5000.00 | 1965 | 3 | | | | |
| | | | | | | | settled | 1968 | 1 | | | | 5000.00 |
| Oto. & OoTD | 45000.00 | 1962 | 9 | | | | | | | | | | |
| | 3000.00 | 1962 | 1 | | | | | | | | | | |
| | settled | 1956 | 11 | | | | | | | | | | 48000.00 |
| OB-GYN | 9500.00 | 1967 | 1 | 2500.00 | 1960 | 1 | | | | | | | 12000.00 |
| Orthoped | | | | 1500.00 | 1970 | 1 | | | | | | | |
| | | | | settled | 1962 | 1 | | | | | | | 1500.00 |
| Radiology | | | | | | | | | | 4000.00 | 1969 | 9 | |
| | | | | | | | | | | 3000.00 | 1967 | 9 | 7000.00 |
| Ophthal. | settled | 1956 | | | | | | | | | | | |
| Unknown | 2000.00 | 1962 | | | | | 1500.00 | 1970 | 4 | settled | 1956 | 8 | |
| | 6000.00 | 1970 | 11 | | | | 250.00 | 1967 | 1 | | | | |
| | 3000.00 | 1964 | 1 | | | | | | | | | | |
| | 3000.00 | 1968 | 1 | | | | | | | | | | 15750.00 |
| TOTALS | 76250.00 | | (12) | 16000.00 | | (5) | 6750.00 | | (4) | 8200.00 | | (4) | 107200.00 |

1. Operative or post-op complication
2. Contract breach
3. Anesthetic injury
4. Mal-treatment including poor result
5. Improper commitment to State Hospital
6. Mis-diagnosis
7. Infant and children
8. Bone
9. Diagnostic procedures
10. Hospitalization
11. Drugs
12. Abandonment
13. Consent

Recovery 25
No recovery 0

## TABLE IV — SUIT BROUGHT — COMES TO TRIAL

| Population | Greater than 80,000 | | | 40,000 - 80,000 | | | 20,000 - 40,000 | | | Less than 20,000 | | | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Specialty | Dism. | Year | Basis* | Dism. | Year | Basis* | Dism. | Year | Basis* | Dism. | Year | Basis* | |
| Gen. Surgery | O | 1963 | 1 | | | | | | | O | ------ | 8 | |
| | O | 1958 | 1 | | | | | | | O | 1955 | 1 | |
| | P | 1971 | 1 | | | | | | | O | 1956 | 4 | |
| | O | 1956 | 1 | | | | | | | O | 1969 | 8 | |
| | P | 1970 | 1 | | | | | | | | | | (7-O, 2-P) |
| Fam. Pract. | O | 1958 | 12 | | | | 12,000 | 1953 | 11 | P | 1970 | 1 | |
| | | | | | | | P | 1960 | 7 | 75,000 | 1971 | 11 | |
| | | | | | | | | | | 7,000 | 1969 | 3 | |
| | | | | | | | | | | O | 1966 | 11 | |
| | | | | | | | | | | 4,000 | 1970 | 5 | |
| | | | | | | | | | | O | 1958 | 7 | (3-O, 2-P) |
| | | | | | | | | | | | | | 98,000 |
| Obstetrics | O | 1957 | — | | | | | | | | | | (1-O) |
| Thor. Surg. | P | 1971 | — | | | | | | | | | | (1-P) |
| Urology | | | | P | ------ | 13 | | | | | | | (1-P) |
| Anesthesia | | | | | | | P | ------ | 1 | | | | (1-P) |
| Unknown | O | 1965 | 11 | O | 1959 | 12 | O | 1948 | 6 | O | 1959 | 4 | |
| | O | 1963 | 9 | O | 1969 | 1 | P | 1970 | — | O | 1968 | 9 | |
| | P | 1969 | 9 | O | 1956 | 1 | | | | P | 1970 | 8 | |
| | O | 1940 | 1 | | | | | | | O | 1971 | 7 | (10-O, 3-P) |
| ER | P | 1970 | 7 | | | | | | | | | | (1-P) |
| TOTALS | (8-O) | (5-P) | | (3-O) | (1-P) | | (1-O) | (3-P) | (1-R) | (9-O) | (2-P) | (3-R) | (21-O, 11-P 4-R) |
| TOTALS | | | | | | | 12,000 | | | 86,000 | | | 98,000 |

O—No Recovery 21
P—Pending 11
R—Recovery 4

*See attached appendix A

patients, with a caveat to the subjective reader that this list is one of complaints without a defense or demurrer, that most of these claims were never substantiated by legal proof, therefore, the list must be read in conjunction with the "Disposition of the Case" noted in the right hand column. 72.4% (of 105 cases finally concluded) of all claims resulted in findings in favor of the physician, with 11 cases still pending.

*General Conclusions:*

The survey and personal investigation lead to several conclusions worth noting:

1. There is a great deal of interest in malpractice insurance as reflected by the 45% response to the survey.

2. There is some variability in the premium rate even within the same specialty group, apparently on an arbitrary basis and not necessarily due to geographic or population criteria.

3. Indications are that activity in the direction of malpractice cases are increasing in South Carolina.

4. Rates are decidedly increasing, and there is no objective system to determine whether or not the increase is geared either directly or indirectly to the losses.

5. The insurance rates charged to the general practitioner, internist, neurologist, and pediatrician are by and large reasonable and remain at a low level. The rates charged to the physicians engaged in the more critical areas, for example, orthopedics, neurosurgery, anesthesiology, are in a much higher range.

6. It appears that the criteria applied by the Insurance Department to the rates of malpractice insurance are vague and indefinite.

7. In comments by the physicians their interest is real and those who have been "bit" express concern to the point of bitterness about their experiences and to their disillusionment of the legal system.

As a result of this survey and its conclusions, it would seem appropriate at this time for organized medicine in South Carolina to form a "Malpractice Committee" to avail themselves of the status of malpractice cases and insurance as revealed by this study, to keep abreast of increased rates as are periodically requested by the insurance companies and for representatives of the Committee to attend such open hearings as are made available by law to question critically the basis for such increases; to determine some means of notification by the insurance companies of the outcome of each malpractice claim or case which is brought in South Carolina; and further to consider the possibilities of obtaining a single insurance company which would offer to insure the physicians of South Carolina in a fair, consistent and realistic manner, and by this pooling of malpractice data, information can be readily and constantly available as the malpractice situation predictably becomes more critical. Some consideration may even be given to the formation of a panel of physicians (or doctors and lawyers) to evaluate on behalf of the individual doctor against whom a claim is made to determine whether it is a valid claim as has been done in other states with the cooperation of an insurance company. In this way, the insurance company can keep its doctors constantly alerted to the pitfalls and can provide prophyllactic measures by which the physician can avoid legal entanglements.

Education of the physician is needed by having nationally recognized legal experts to speak to the Medical Association and to the county societies, by formation of medical-legal panels locally to discuss their respective disciplines and to seek common ground of understanding. It is to be noted that the Medical College has adopted as a part of its new curriculum a required 22 hour course on medical jurisprudence which stimulates the students early so that they pursue a continual, interested study of malpractice cases throughout their training, on a sound and relatively objective basis.

Although the malpractice picture in South Carolina has not reached the critical stage, as one reads the individual letters from the physicians who have been threatened or involved in a malpractice suit, the only con-

clusion is that the situation is serious enough and potentially dangerous enough to warrant an official interest by organized medicine in this State. The goal at the present time should be primarily that of finding a means by which the physicians might stay informed on a year to year basis as to what malpractice suits are being brought and to be reassured that the rates are reasonably tied in with the malpractice experience.

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**Testamentary Capacity Disproved Through Physician's Opinions and Medical Records**

The lack of mental capacity required to execute a last will and testament can be proved by introducing medical records of the deceased, and through opinions of doctors who had treated the deceased, the highest court of Kansas has ruled.

The deceased was a prisoner in a state penitentiary at the time of his death. He made and executed his will one and one-half years prior to his death, and left one dollar to each of his three children. The children opposed the validity of the will on the ground that their father was not of sound mind when the will was executed. In invalidating the will, the trial court relied primarily upon medical records of the penitentiary, both prior to and after the execution of the will, and opinions of two doctors, one of whom had treated the father prior to the execution of the will, and one who had treated him after the execution of the will.

Kansas' highest court upheld the trial court's holding that the father was not of sound mind when the will was executed, stating that the focal point in time, where mental capacity is in issue, is the actual date of the will's execution, but evidence of capacity or incapacity, both before and after that date, is admissible and relevant in the investigation into mental capacity.

Under a Kansas statute, medical records are considered business entries and are admissible in evidence as exceptions to the hearsay rule. These medical records disclosed that the father suffered from diabetes, syphilis, arteriosclerosis, heart disease and emphysema. The records also contained a psychiatric diagnostic report dated four months after the execution of the will, stating that in the opinion of the psychiatrist who wrote the report, the father suffered from an organic brain disorder with psychotic and behavioral disturbances.

The opinions of the two doctors were also admissible since they were medical experts entitled, by virtue of a Kansas statute, to express their opinions on facts personally known to them or made known to them at the trial. Hence, even though their opinions were based partially upon the medical records put into evidence, they were still admissible.

A dissenting opinion was filed based on the contention that 22 persons testified, and only the two doctors stated that the father was incompetent. The dissenting judge felt that the opinions of the two doctors should not have been admitted, because by relying in part upon the medical records the doctors were in effect basing their opinion on someone else's opinion.—*In Re Estate of Bernatzki,* 460 P.2d 527 (Kan.Sup.Ct., Nov. 8, 1969)

# President's Pages



This is being written immediately following my return from the clinical session of the AMA in New Orleans. As many of you already know, all is not well in the AMA and has not been for several years. I am not high up enough to be knowledgeable about the reasons nor where to place the responsibility, but even from my level I know there is friction among top personalities – the hierachy, if you please. Dr. Wesley W. Hall, in his inaugural address last June, asked for a constitutional convention to update the Constitution and By Laws of the AMA, but this was not approved by the Council on Constitution and By Laws nor the Council on Long Range Development and Planning. At this session he again spoke out boldly of his concern, asking the house of delegates to require the councils to do what they would not do on their own free will. He cited several reasons for his concern. AMA membership is slipping—possibly because of the dues increase and possibly because several state associations have removed mandatory membership in the AMA. AMA reserves are declining and not generating as much income as before. The Reno surgeon told the delegates, "Frankly, I am troubled by what I see and hear" and urged "a break with tradition" and "major repairs" in the organizational structure of the Association, and that these changes must come from the House of Delegates and could not be expected to come from those in high command. "It is only fair to say that there is a serious struggle for power in the ranks of the AMA. The struggle exists not only between the elected officers, but also between elected officers and staff. It involves personalities and principles. Moreover it does no good to blame outside troubles for the AMA's present division. It is of its own making." In speaking to the delegates Dr. Hall said, "The Board of Trustees is merely a committee of this house but with certain specified duties that are rather broad. The staff of the AMA are employees of the AMA selected by the Board of Trustees. The problems facing medicine are obligations which cannot be shifted to the shoulders of others. You must be prepared to accept them and be held accountable."

One tends to "side" with Wes Hall. I don't know what went on before last June, but I know that he has made two forthright addresses and each time has "taken on" the policy makers of the AMA. This includes, besides himself as President; Dr. Max Parrott, chairman of the Board of Trustees; the Speaker of the House Dr. Russell Roth, who aspires to be President; the Executive Vice President Dr. Ernest B. Howard, who attained the office several years ago when there was a power grab and Dr. Blassingame was ousted, much to the consternation of many in the Association. Incidentally, it was such a maneuver by some of the same people who denied our own Julian Price the Presidency. It is said that some of the trouble stems from Dr. Hall's attempt to lead. Apparently heretofore the President has not been expected to be more than a figurehead and the Board of Trustees called the plays. It appears that Wes Hall isn't that kind of man. The paradox is that while things seem to be uneasy and disturbed at headquarters, it probably will result in a much stronger AMA; an organization that you and I are going to feel more at home in. Already there are signs that the House of Delegates is more

responsible. Student pleas for more recognition have been rewarded by representation in the AMA. Also the delegates voted to give attention to Dr. Hall's request for structural change. These are good signs and show evidence that the Association is getting closer to the doctors in practice.

Whatever its problems are, and whatever the solution is to be, I am convinced that we must not fail to accept the challenge to cast our lot with the AMA and work from within to make it what we want it to be. No other organization exists where all of us—doctors all—can gather as one and have our voices heard throughout the land.

# Editorials

### Of Medical Ethics*

When this writer was asked to provide a short discourse on medical ethics, he immediately sought to refresh his recollection of the standards of the American Medical Association. His own copy has disappeared, the libraries had none, and casual inquiry among likely people yielded nothing. It may be that some of our members are not on speaking terms with the principles which are supposed to guide their professional lives.

Morals change with the times. Our current morals have declined drastically. Some of the older strict interpretation of the code has gone. Early codes emphasized interprofessional conduct to a large extent. Modern revisions stress largely the ethical responsibility of the physician to the patient and to the profession. The ten provisions of the *Principles of Medical Ethics* of the American Medical Association express briefly the ways in which the physician should conduct his dealings with others in a manner that brings dignity and respect to himself and to the practice of medicine.

Some few points made in the code might bear emphasis. Full service and concern for patients is obviously required, and the effort to improve medical knowledge and skill must go on. Devotion to ethical medicine requires avoidance of those who follow any unscientific cult, and association with these irregulars is objectionable.

A similar devotion to the wholesomeness of his profession requires that the physician should expose the incompetent and the immoral confrere who is harmful to the public.

It is well recognized that the physician should not solicit patients, even if it be by the subtle method of appearing in the press in connection with some unusual procedure. On the other hand, such appearances in connection with the receipt of honors, election to office, and the like are condoned as shedding favorable light on the profession as a whole.

Section 7 of the code says "in the practice of medicine a physician should limit the source of his professional income to medical services actually rendered by him, or under his supervision to his patients." Cases could be cited in which a physician, having referred a patient to a surgeon, made daily "good morning" visits to the convalescent and charged daily fees. Excessive fees in themselves violate the spirit of the rules of ethics.

Readiness for consultation and strict observance of the confidence of the patient are required. A willing participation in civic affairs and in organized efforts to improve the health and well-being of the individual and the community is a desirable attribute of the true physician.

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*1. Demeulenaere, L.: Action du R 1132 sur le transit gastro-intestinal, Acta gastroent. Belg. 21:674-680 (Sept.-Oct.) 1958.*

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An occasional brief study of the code would do us all good. Strict observance of the rules and a constant devotion to the problems of the patient are probably the only means by which our image, so often described as "tarnished", may be polished to an acceptable brightness.

Joseph I. Waring, M. D.

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**Medical Education in Illinois**

While interest regarding the possible establishment of a second medical school in South Carolina continues, it might be of some value to see what the State of Illinois has set out to accomplish in medical education. Five medical schools already in existence are being augmented with the addition of five new schools. There appear to be variations in the organizational structure of these schools, however the use of pre-existing facilities has been strongly emphasized at both the pre-clinical and clinical levels. One for example has been described as a "school without walls" and will utilize facilities in one area for pre-clinical study, with the clinical years to be primarily in another geographic location with pre-existant facilities. One apparent advantage of this approach would be to avoid expenditure of construction funds. After a discussion with an assistant Dean of another of the new schools, it was my impression that their philosophy would be to not only utilize pre-existing physical facilities, but as much as possible to utilize professional talents of the local medical community as well. His reasoning followed the promise that to bring in "outsiders" to operate the school would create a division or distance between the school and the community. Obviously if an approach such as this were followed, the medical expertise and teaching talents of the local medical community as well as their interest would be of utmost importance. It would seem this might also raise questions among others regarding the model within which future physicians would be trained, and whether a "community" approach could afford an adequate educational experience.

Of course if a second medical school were to be established in South Carolina it would not need to necessarily follow these approaches, and what the State of Illinois has chosen to do might not be at all applicable in South Carolina. It would seem however that something might be learned from the organization of these new schools in terms of whether it would be a mistake for South Carolina to move in this direction, or whether or not it might be a useful and workable approach.

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The Journal of the South Carolina Medical Association

## 50 YEARS AGO

**January, 1922**

Dr. W. W. Fennell of Rock Hill was president of the Tri-State Medical Association of the Carolinas and Virginia. The Public Health Institute, held under the auspices of the U. S. Public Health Service in Columbia, was reported as being very successful. The virtues of treating appendectomy as relief for a definite symptom complex were extoled by Dr. Carl B. Epps of Sumter. The Thompson Memorial Building of Roper Hospital in Charleston was reported as completed.

# Letters to the Editor

Dear Doctor Thomas:

The competence of the Editorial Board of *The Journal of the South Carolina Medical Association* should be re-evaluated following the publication of the lead editorial in the November 1971 issue. That was a poor bit of journalism.

There can be no argument with the right of the editors to publish their opinions on far-ranging matters, including controversial non-clinical or nonscientific matters such as "a second medical school" for South Carolina. Indeed, our *Journal* should be the very best medium for publication of facts and figures and baring of views on this issue. As in the case of original scientific articles submitted for publication the editorial board should see to it that any facts and figures used are adequately documented and that the data presented are representative of all the data available.

That is the rub. The editorial in question contained a number of errors, all of such magnitude as to make unjustifiable the conclusion that the editorial writer wishes his readers to come to. The editorial also omitted some important points which have been widely publicized and should certainly have been included in any systematic or "progressive" presentation of data on the subject.

First, it was stated that since 1950 over $40 million in new facilities have been built at the Medical University of South Carolina in Charleston. It is true that $30 million has been spent for land acquisition and construction there. But it is most important that everyone realize that the facilities provide space for the College of Nursing, College of Dental Medicine, College of Pharmacy, College of Allied Health Sciences, and College of Graduate Studies, in addition to the College of Medicine.

Second, it was stated that the annual state appropriation for the Medical University is now up to $16.4 million, which is among the nation's highest. This is true but it must be noted that the budget for the College of Medicine accounts for only $4.9 million. A large amount (5.0 million) of the total is consumed in the operation of the Medical University Hospital, and similar costs would have to be borne by a state-owned general hospital in Columbia (as also pointed out in the report of the Lippard committee). The remainder of the appropriation is used to support the other colleges and to support the outpatient clinics.

Third, it was stated that The Medical University of South Carolina has estimated capital costs in the 1970's of $86 million. That figure is also true to 1985, but again the figures include costs of facilities to be used by the other colleges than the College of Medicine. The $86 million figure is compared with $20-30 million estimated for construction of the "medical school" in Columbia without describing the facilities which might be built at either place. Actually, in the Lippard report the cost of construction of a new school in Columbia was estimated at $60 million.

Fourth, the editorial fails to mention that the Lippard report specifically called for construction of a teaching hospital which would open 1-2 years after the first students were accepted into a new school. The construction of a teaching hospital in the next decade is not even mentioned in the editorial. Instead, utilization of certain state and community hospitals and clinics for teaching purposes is proposed. The practicality of using some of the facilities listed is open to serious question (but that is a matter of opinion). The fact is that 876 beds in The State Hospitals cannot be considered general teaching beds.

While I realize that this was an editorial and not a brief report of a study, not an essay and certainly not a comprehensive review of the subject, I am alarmed that such an inaccurate and potentially misleading bit of writing could find any place in our state journal. It is the duty of the editorial board to assist the editor in culling out pieces with inaccurate or unrepresentative data, so I hope you all will be more careful in the future.

The physicians of South Carolina are indeed busy and they cannot afford to be misled into mistakes. They surely depend on you and your editorial board to protect the integrity of our state journal.

The opinions expressed in this letter are my own and may or may not represent the opinions of the faculty or administration of The Medical University of South Carolina. You have my permission and request to publish this letter.

Walter M. Bonner, Jr., M.D.
Associate Professor of Medicine
Medical University of South Carolina
Charleston, South Carolina 29401

P.S. Also, the busy physicians of South Carolina will not want to pay the same price that Abelard paid for his famous mistake. For further information concerning this, write to me at the address listed above.

---

**Reply**

The $40 million capital expenditures at MUSC refer to land acquisition plus the following buildings: Teaching hospital ($11 million), and the basic science, library, dental school complex ($14 million). The clinical science building, which is to open by 1975, will cost an additional $16 million. The need for all of these buildings was and is undeniable. But what will an additional $70 million in capital expenditures do that could not be done better for less than half that amount in Columbia?

The Lippard Report (which we will furnish in entirety to any interested physician) estimate of $60 million for a new school in Columbia included a new teaching hospital. My editorial specifically stated that the estimated $20 to $30 million construction cost would not include a new hospital and also named the existing facilities to be used. This plan is entirely consistent with the philosophy of the consortium, which MUSC is actively promoting, and with approaches taken elsewhere. For instance, Illinois is starting a new medical school at Southern Illinois University by using the graduate school of the University in Carbondale and two community hospitals in Springfield. The capital expenditure will be $1 million for remodeling an existing campus building, $6 million for additions to the two hospitals, and $13 million for a new building to house administrative offices, library, student labs, classrooms, and other functions. The total cost for 160,000 net available square feet will be $20 million. The total cost of the new LSU Shreveport school was $30 million.

Federal funds will now pay for 80 per cent of new medical school construction. Statements that the proposed second medical school in Columbia would cost $100 to $150 million are pure fiction. Instead, the state share of new construction costs is estimated to be only $5 million, which incidentally is the amount MUSC requested in increased appropriations for next year. The question for South Carolina is simple: Could increased trainee capacity, increased medical research, and improved medical service for as many citizens as possible be accomplished for less money by continuing to rely on a single medical school, which the state has done for 147 years, or by starting a new school at USC in Columbia at the earliest possible date. Hopefully, the Legislature will be guided by facts and logic rather than myths, tradition and local self interest.

Donald E. Saunders, Jr., M. D.

# SOUTH CAROLINA MEDICAL ASSOCIATION
# MINUTES OF COUNCIL

Columbia, S. C. October 27, 1971

The Council of the South Carolina Medical Association met Wednesday, October 27, 1971 at 2:00 p.m. at the Blue Cross-Blue Shield Headquarters in Columbia. The following were present: Dr. J. Howard Stokes, Dr. Harold P. Hope, Dr. J. Hal Jameson, Dr. John P. Booker, Dr. John D. Gilland, Dr. Waitus O. Tanner, Dr. Michael Holmes, Dr. D. Strother Pope, Dr. Harrison Peeples, Dr. A. Richard Johnston, Dr. Halstead Stone, Dr. Edward F. Parker, Dr. Forde A. McIver ,Dr. Donald Kilgore, Dr. William H. Hunter, Dr. C. Tucker Weston and Dr. Thomas Parker.

Also: Mr. M. L. Meadors, Dr. Ben N. Miller, Dr. Buckland Thomas, Mr. Richard Pugh, Mr. Tom Sawyer, Mr. Jules Hennig and Dr. E. Kenneth Ayecock.

The Chairman, Dr Harold P. Hope, presided. Dr. Dessie Gilland offered the invocation. It was announced that Dr. John Hawk was unable to be present because he has just undergone surgery.

The minutes of the September meeting were approved as circulated.

The Chairman welcomed Mr. Tom Sawyer from the AMA, Mr. Richard Pugh, SCMA Executive Assistant, and Dr. Ben Miller, Past President of the SCMA.

Dr. J. H. Jameson introduced to the group Jules Hennig, a senior medical student at the Medical College, who is currently doing a preceptorship with his group in Easley. Mr. Hennig spoke briefly to the group concerning what the Medical College is doing with regard to Family Practice.

The Chairman announced to the group that the primary purpose of the meeting is to study the budget. He then called on the Treasurer, Dr. J. Howard Stokes, for his report. Dr. Stokes referred the group to copies of the budget which had been distributed to all members. He stated that he was happy to state that the Association is approximately $14,000 in the black, and then went over the items listed in the budget.

Following Dr. Stokes' report, the Chairman opened the floor for questions. Dr. Jameson inquired if any investigation has been made regarding putting the money of the Association some place other than the Investor's Mutual Fund. After discussion from several members of the group, Dr. Forde McIver moved that the Investment Committee be authorized to consider making additional investments. His motion was carried.

Dr. Stokes then asked Mr. Meadors to present the proposed budget figures for 1972.

Referring to the printed copy of the 1971 budget, Mr. Meadors recommended that the Secretary's budget for 1972 remain as set up for 1971, $1,500.

Moving to the *Journal* budget for 1972, Mr. Meadors recommended that the amount appropriated for Printing be increased from $27,000 to $30,000 (making the total amount for *Journal* $36,720.) Dr. A. R. Johnston made this recommendation in the form of a motion and it was voted on and carried.

For the Executive Offices, Mr. Meadors recommended that the Assistant's Salary be increased from $13,200 to $13,500 for 1972 (in the printed copies of the budget the Assistant's salary is listed as $12,000 for 1971; this was changed to $13,200 in August of this year.) He further recommended that the appropriation for Office Help be increased from $17,100 to $18,000; and Rent from $3,240 to $3,600.

There was discussion concerning the Executive Secretary's salary, and at the suggestion of Dr. Halstead M. Stone, discussion on this was deferred, and no vote was taken on this section of the Budget at this point.

Under AMA meetings, Mr. Meadors recommended that the amount remain at $6,350. Dr. Forde McIver moved that the recommendation be accepted as proposed. His motion was duly seconded, voted on and carried.

Under Committees, Mr. Meadors recommended that all appropriations remain the same with the exception of the Peer Review

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# Call it what you will, it may be premalignant...

## Before

**3/29/67** Before therapy with 5%-FU cream. Patient P. T. shows a moderately severe solar keratotic involvement. Note residual scarring from the previous cryosurgical and electrosurgical procedures on forehead and ridge of nose adjacent to periauricular area.

## After

**6/12/67** Seven weeks after cessation of therapy. Reactions have subsided. Residual scarring is not seen except for that due to prior surgery. Inflammation has disappeared and face is clear of keratotic lesions.



ROCHE
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Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

# nd Efudex® (fluorouracil) 5% cream can resolve it.

## ll it actinic, solar or senile keratoses, ny regard it as "precancerous."[1,2]

ical fluorouracil, considered by some dermatologists to be a major nce in the treatment of multiple solar keratoses,[3,4] offers the physi- a relatively inexpensive alternative to cryosurgery, electrodesic- on and cold knife surgery. Of the topical fluorouracils available, only dex offers 2% and 5% solution and 5% cream formulations—formula- s that have proved effective in the treatment of these mutliple lesions.

## ual duration of therapy, 2 to 4 weeks.

ies showed that with the 2% and 5% Efudex preparations, the usual tion of therapy was only 2 to 4 weeks.[5] Other studies with topical ouracil revealed that when concentrations of less than 2% were , significant numbers of lesions recurred.[6]

## ats the lesions you can't see, too.

nerous lesions, not apparent prior to 2% and 5% Efudex therapy, ifested themselves by definite reactions, while intervening skin ained relatively unaffected.[5] The early eradication of these subclini- esions (which may otherwise have undergone further progression) ably accounts for the reduced incidence of future solar keratoses in nts treated with topical fluorouracil—especially with 5% entrations.[6]

## v to identify solar keratoses.

cally, the lesion—a flat or slightly elevated brown to red-brown le—is dry, rough, adherent and sharply defined. Multiple lesions he rule.

## dictable therapeutic response.

response to a typical course of Efudex therapy is usually acteristic and predictable. After 3 or 4 days of treatment, erythema ns to appear in the area of keratoses. This is followed by a moderate tense inflammatory response, scaling and occasionally moderate erness or pain. The height of this response generally occurs two s after the start of therapy and then begins to subside as treatment pped. Within two weeks of discontinuing medication, the mmation is usually gone. Lesions that do not respond should opsied.

nces: 1. Allen, A. C.: *The Skin, A Clinicopathological Treatise*, ed. 2, New York, & Stratton, 1967, p. 842. 2. Dillaha, C. J.; Jansen, G. T, and Honeycutt, W. M.: tment of Actinic Keratoses with Topical Fluorouracil," in Waisman, M. (ed.): *aceutical Therapeutics in Dermatology*, Springfield, Ill., Charles C Thomas, 1968, 3. Belisario, J. C.: *Cutis, 6*:293, 1970. 4. Sams, W. M.: *Arch. Derm., 97*:14, 1968. a on file, Hoffmann-La Roche Inc., Nutley, New Jersey. 6. Williams, A. C., and E.: *Cancer, 25*:450, 1970.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Multiple actinic or solar keratoses.

Contraindications: Patients with known hypersensitivity to any of its components.

Warnings: If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

Dosage and Administration: Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

How Supplied: Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

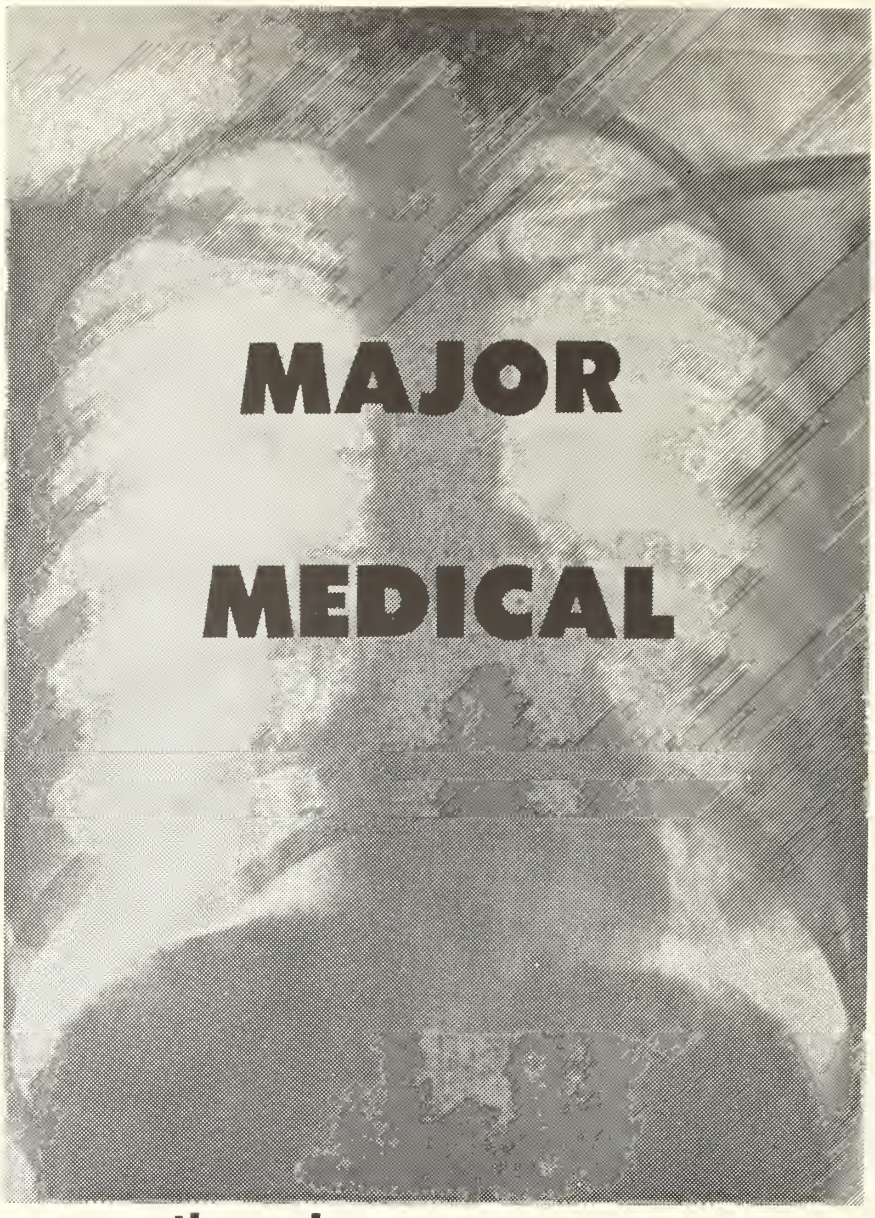
Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).




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Committee, which he recommended be appropriated $1,200. Dr. Johnston moved that the recommendation be accepted, and his motion was voted on and carried. (This makes the appropriation for Committees $5,500).

Following discussion concerning paying mileage to all committee members attending meetings, Dr. Jameson moved that Committee members be paid mileage at 12¢ a mile. His motion was duly seconded, voted on and carried.

There was discussion with regard to paying mileage to members of Council and the group decided against this. It was agreed by the members that a blanket insurance on Council members traveling to meetings, which had been mentioned by Dr. Stokes, would be an excellent step.

Mr. Meadors recommended that the Woman's Auxiliary appropriation of $4,000 remain the same. Dr. Forde McIver moved that this recommendation be adopted, and his motion carried.

Under General Expense, Mr. Meadors recommended that all items in this category remain the same with the exception of the appropriation for Audit, which he recommended be increased from $1,750 to $2,000; and insurance, from $3,600 to $4,200; Postage, from $2,200 to $3,500; Telephone and Telegraph, from $3,000 to $4,200; and Retirement Pension Plan, from $2,700 to $4,000 (making the total for General Expense $32,650.)

Dr. Johnston moved that the recommendations for General Expense be accepted. Dr. Michael Holmes seconded the motion, and it was voted on and carried.

Referring back to the Audit appropriation, Dr. Tucker Weston commented that it was his understanding that a motion had been passed to the effect that an audit be made of the expenses of the Annual Convention and the results reported to Council. He questioned if this had been done. Mr. Meadors stated that the audit had been made and that he would give this report at the next meeting of Council if such a motion was passed.

Dr. Johnston requested that Mr. Meadors retire from the room, and an increase in his salary was discussed. It was pointed out that he is now devoting full time to the Medical Association and that he is constantly working on behalf of the Association. Dr. Waitus Tanner moved that we raise Mr. Meadors' salary to $25,000 if we are allowed to do so (referring to the price freeze). It was voted on and carried. This would bring the total appropriation for the Executive Offices to $67,600.

After discussion and inquiries concerning the amount of the total budget, Dr. McIver moved that we determine the exact amount of the proposed budget during break before voting for its adoption. This was agreed to, and following break, the Chairman announced that the proposed budget amounted to $154,320. In reply to an inquiry by Dr. Hunter, Dr. Stokes advised that anticipated income is $150,000.

Following discussion from several members regarding the fact that the Budget does not balance, Dr. Tom Parker moved that the Chairman of Council appoint a sub-committee to report at the next meeting of Council with recommendations for a balanced budget. Dr. Gilland seconded the motion, and it carried in the affirmative.

Mr. Richard Pugh introduced Mr. Ben Merritt and Dr. Mary Tobin, who are with the Vocation Rehabilitation Disability Division. Dr. Tobin stated that their purpose in appearing before the Council was to get their advice on how they might go about getting a Disability Handbook into the hands of all practicing physicians in the State, and also any advice Council could give on getting the doctors to read it.

There were several suggestions from the floor, and Dr. Stokes moved that the Regional Offices deliver the Handbooks to the doctor's offices to the attention of the Secretary with a cover letter telling what the Handbook is for. It was voted on and carried.

Dr. William Fairey of Georgetown spoke briefly regarding his study concerning malpractice insurance in the State. He stated that he hoped we could move from the information in the report to perhaps create a committee so that we can keep up with what's happening in South Carolina in the area of malpractice.

Dr. McIver moved that a committee of three be appointed to study the entire situa-

tion with Dr. Fairey to serve as Chairman; and that the Committee report back to Council at its January meeting with recommendations as to how we should proceed in follow-up to Dr. Fairey's study. The motion was carried.

Dr. Hope gave a report as Chairman of Council, recalling the steps toward the formation of the Foundation, obtaining the Charter, and general background. He informed the group that he had attended a breakfast meeting at the Governor's Mansion the day before, where HMO's were discussed. He stated that his remarks were contradictory to everything that was said. He further indicated that he felt that he would be put on a Committee which the Governor will form regarding this matter, and asked the advice of Council concerning what position he should take, and if Council wants him to push the Foundation concept.

Dr. Ken Aycock gave background information stating that the Governor had told him he was obligated to provide health insurance for state employees, and he had been exposed to the HMO concept, and had requested that Dr. Aycock get information on HMO's for him. Dr. Aycock further stated that the Governor had requested him to write a feasibility and planning grant for money to investigate the feasibility of some type of health maintenance organization in South Carolina. He pointed out that the Governor is aware that he must have the backing of the doctors.

After discussion from all members of the group, the opinion was expressed by many that this is an excellent opportunity for the Medical Association through its Foundation to get "into the act" and exert some leadership.

After lengthy discussion, Dr. Kilgore moved that Dr. Hope as Chairman of Council (and Dr. Booker as President of the SCMA) be empowered to represent us in cooperating with the Governor. Dr. Hope stated that he would accept the responsibility to this extent—that he would tell the Governor that the Medical Association is anxious to cooperate with him in the matter of providing health care for state employees. Dr. Johnston suggested that that he go somewhat further than this and tell the Governor about the Foundation. Dr. Kilgore's motion was carried.

Dr. Aycock stated that he had been instructed that the grant be ready by November 15th, and that after it goes to the Governor he will be happy to transfer it to the SCMA at some future date. He also pointed out that if the grant comes, it will set up a Policy Committee which could be heavily weighted with physicians.

Dr. Waitus Tanner moved that Dr. Hope and Dr. Booker be instructed to include the Foundation as an applicant for the grant. The motion was voted on and carried.

Dr. Tanner then moved that Council instruct Mr. Meadors to implement as soon as possible the establishment of a functioning Foundation. His motion was seconded by Dr. Booker.

Dr. McIver stated that he would like to amend the motion to the effect that no official action be taken without notifying the House of Delegates and asking for their approval.

The amendment to Dr. Tanner's motion, made by Dr. McIver, was voted on and did not carry.

Dr. Tanner's motion was then voted on and carried in the affirmative.

There was further discussion concerning having doctors who are knowledgeable on Foundations meet with county medical societies and educate them in this regard.

Dr. Tucker Weston suggested obtaining professional advice from the public relations aspect and he suggested that Mr. Meadors confer with a public relations representative and report back to Council.

The Chairman stated that Dr. Harvey Atwill has resigned as Councilman from the 8th District, and that Dr. Randolph Smoak of Orangeburg has been suggested to succeed him. Dr. Johnston moved that a letter be written to Dr. Atwill accepting his resignation with regrets, and a letter to Dr. Smoak welcoming him as a member of Council.

Mr. Meadors stated that the AMA is holding a meeting on voluntary health ageneies on April 9, 1972, and had requested that we co-sponsor this meeting with them. Dr. Booker moved that we co-sponsor. His motion was duly seconded and carried.

Dr. Gilland stated that the "Blues" (Blue Cross-Blue Shield) would like the opportunity to look into self-insurance on professional liability and give us their thoughts. He made this in the form of a motion; it was seconded by Dr. Jameson, voted on and carried.

Dr. Booker, in his President's report, stated that he had received a letter from Dr. Hugh Wells, Chairman of the Legislative Committee, stating that he is having a problem getting his Committee to meet, and outlining alternative methods by which this Committee might function. After suggestions from several members, Dr. Pope moved that we take Dr. Wells' suggestion for the reorganization and future functioning of this Committee. It was voted on and carried.

Dr. Booker called attention to an editorial in a Seneca paper which was derogatory to physicians. He stated that he wants to write a letter to the paper giving correct facts. He also stated that he would like to see a Drug Abuse Committee in each County Medical Society and he emphasized that it is the responsibility of physicians to see that everyone in South Carolina has adequate medical care.

Mr. Meadors gave the background concerning advertisement in the State Journal for Damon Laboratories, which is another name for a group of Pathologists who practice in Anderson. Damon Laboratories is an outside commercial laboratory headed by these men. In summary, Mr. Meadors stated that they are not running the ad in the Journal now, but that he feels sure they will be approached again in the near future to run the ad. He stated that to refuse to run it would be violating a Federal Court order (which he read to the group.) He added that all other State Journals have accepted the ad but that the Pathologists in South Carolina are opposed to it.

Dr. Donald Kilgore pointed out that he had a 12-page legal document which was contradictory to Mr. Meadors' opinion that refusing to accept the ad would be in violation of a Federal Court order. He also stated that he had a 4-page letter of legal opinions from anti-trust lawyers, and other information. Dr. Kilgore stated that he did not know what should be done, but requested that members of Council read the material he had passed out to them and discuss it at the next Council meeting.

Dr. McIver moved that the Editor of the Journal be instructed to take no action on this until it is brought up at the next Council meeting. It was carried.

Dr. Pope called attention to the fact that he and Richard Pugh are trying to set up meetings with the legislators to improve the relationship between the medical profession and the legislators by coming to a better understanding of mutual problems. He suggested that if possible it would be well to have such meetings over the State.

Dr. Booker brought up the subject of First-aid stations in the Legislature, calling attention to the fact that the Columbia Medical Society would assume primary responsibility for coverage and would encourage doctors from other areas to participate. Mr. Tom Sawyer of the AMA pointed out that four of our neighboring states are doing this very successfully.

Dr. Booker moved that we proceed with this project post-haste.

Mr. Meadors stated that Council had in the past expressed their approval and desire for Dr. Bill Hunter and Dr. Hiram Curry to serve on the President's Council of Family Practice of Medicine. He stated that this was subsequently vetoed before they were officially named to serve, but has now been passed again. He now has a request for a letter of recommendation for Dr. Gavin Appleby to serve in this capacity. Dr. Johnston moved that Dr. Appleby's name be added to the eligibles to serve along with Drs. Hunter and Curry. His motion was seconded, voted on and carried.

Dr. Hope stated that with the resignation of Dr. Atwill another Vice-Chairman will need to be elected. Dr. Edward Parker nominated Dr. John Hawk. Dr. Halsted Stone nominated Dr. Waitus Tanner. Dr. Tanner was elected.

Dr. Hope stated that Dr. McCord had extended a verbal invitation for Council to meet at the Medical University for its Mid-winter meeting. Dr. Stone moved that the invitation

be accepted. His motion was duly seconded, voted on and carried.

Dr. Dessie Gilland announced that Congressman John McMillan had or will introduce two Bills which endorse the AMA's concept as expressed in the Medi-credit proposal.

Dr. Tucker Weston reported on the present status of the proposed purchase of property adjacent to the Richland Memorial Hospital for the Permanent Home.

Dr. Forde McIver introduced the following Resolution which was adopted:

In view of the unfortunate passage of a Hospital Franchising Act without due consultation with the Medical Profession, now therefore, be it resolved:

That the Chairman of Council appoint a Committee to study the effects of such a bill, and,

That Council be advised by this Committee as to what might be done to protect the people of the State and the profession from the unfair, discriminatory, and stultifying effects on private enterprise of this bill, and,

That this Committee report to Council in January.

Meeting adjourned.

D. STROTHER POPE, M. D.
Secretary

S. C. Medical Association
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The specialty breakdown of all physicians in the placement service files are as follows:

| | | | |
|---|---|---|---|
| Anesth. | 1 | Path. | 4 |
| GP | 4 | Ped. | 4 |
| Int. Med. | 8 | Psy. | 3 |
| Obs. Gyn. | 5 | Rad. | 2 |
| O & O | 4 | Surg. | 24 |
| Orth. | 4 | Urol. | 3 |

Interested physicians may contact this office for further information.

Richard G. Pugh
South Carolina Medical Association
Columbia Office
410 Columbia Building
Columbia, S. C. 29201

# PART II

# MINUTES OF

# SOUTH CAROLINA MEDICAL ASSOCIATION

# HOUSE OF DELEGATES

## ONE HUNDRED TWENTY-THIRD ANNUAL SESSION

**May 10,12, 1971** **Convention Center** **Myrtle Beach,S. C.**

**Ben M. Miller, M. D., Presiding**
**(Second Day)**

Call to Order—Wednesday, May 12, 1971—9:30 A.M.

The Report of the Memorial Committee was the first Order of Business. Dr. Tom Parker gave this Report.

*Dr. Thomas Parker, Greenville:* This is an occasion of solemn remembrance as we honor our colleagues who have gone on to their award.

Ackerman, Riddick, Sr.
May 20, 1970
Blackmon, William R.
October 5, 1970
Boone, John A.
August 26, 1970
Causey, Hunter A.
January 2, 1971
Cone, Wallis
June 2, 1970
Hardy, B. Franklin
Johnson, Harley M.
September 4, 1970
Josey, A. Izard
November 10, 1970
King, Sam M.
September 26, 1970
McCalla, Lawrence H.
February 2, 1971
Mikell, I. Jenkins
Mood, H. Ashleigh
February 4, 1971
Nachman, Mordecai
May 23, 1970
Nicholson, Albert R.
July 19, 1970
Poliakoff, A. Ellis
July 11, 1970
Pruitt, Alga V.
June 23, 1970
Roberts, Conan M.
August 24, 1970
Rogers, Wilbert K.
February 8, 1971
Sanders, James H.
September 7, 1970
Sanders, Keith F.
April 20, 1970
Sughrue, John
October 6, 1970
Sweatman, Carl A.
October 5, 1970
Warder, Frank M.
August 27, 1970
Whitten, Benjamin
November 5, 1970
Blalock, George R.
April 2, 1971
Drake, Thomas F.
March 29, 1971
Quinn, Robert E.
March 24, 1971
Bolin, Grover C., Jr.
April 7, 1971
Helmbold, August F. W.
February 2, 1971
Waddell, Henry G.
February 18, 1971
Smith, W. Atmar
May 2, 1971
Whitworth, Horace M.
April, 1971

Dr. Forde McIver served as parliamentarian.

The following Reference Committee Reports were considered and accepted as submitted.

(1) Dr. Miller's Report;
(2) Dr. Booker's Report;
(3) Dr. Hope's Report;
(4) Dr. Stokes' Report;
(5) Mr. Meadors' Report;
(6) The Editor's Report;
(7) Report of the Committee on Historical Medicine;
(8) Report of the Advisory Committee to Woman's Auxiliary.

The following Reference Committee Reports were then presented.

*Dr. Dexter B. Rogers, Chairman:* The first resolution we considered was the Colleton County Medical Society's Resolution resolving that we support the present legislation now pending before the House of Representatives in the State of South Carolina to diminish the number of welfare recipients by control of the number of illegitimate births by encouraging voluntary sterilization after two such mistakes. Discussion in our Reference Committee on this resolution centered around the fact that there are very, very few laws on sterilization now on the books of the State of South Carolina and that there needs to be a comprehensive law or set of laws concerning both voluntary and involuntary sterilization. It was, therefore, the recommendation of our Committee that the committee recommend non-adoption, with further recommendation that the House of Delegates instruct Council to pursue study and action concerning comprehensive sterilization laws for the State. We move for the adoption of the Committee's recommendation.

(This motion was seconded, there was no discussion, the vote was taken and it was passed.)

*Dr. Rogers (continuing):* The second Resolution was the Resolution from Chesterfield County — "Be it Resolved that the House of Delegates of the South Carolina Medical Association hereby endorse an Amendment of the Medical Practice Act to provide that each licensed physician in South Carolina spend at least one (1) week in each calendar year in some type of postgraduate education which may be duly certified in order to maintain his license to practice." It was felt that one week out of each year would probably be restrictive on some physicians and that in any given year, a physician in this State might have something to happen personally that would not allow him to spend one week in that year. Consequently, the Reference Committee recommended non-adoption of the Resolution as it was presented; however, we did recommend that Council establish and implement study and appropriate action for post-graduate study requirements for all licensed physicians in the State. We recommend that this matter be studied also by the State Board of Medical Examiners. It was felt that some type of post-graduate study should be held by all doctors that are licensed in this State and that at some given time, it is going to be required by various agencies in order to participate in various programs and that we should take the lead in establishing such a situation at this time. The Committee recommends adoption of its recommendation.

(This motion was seconded, there was no discussion, the vote was taken and it was passed.)

*Dr. Rogers (continuing):*

The third Resolution was the Greenwood Medical Society's Resolution —

The Reference Committee recommends adoption and adds:

"BE IT FURTHER RESOLVED that the Delegates of the S. C. Medical Association to A. M. A. be instructed to present this at the House A. M. A. Meeting in June, 1971; and further recommends that this be referred to Public Relations Committee for consideration, publication and dissemination."

The Reference Committee moves for adoption of its recommendation.

(This motion was seconded, there was no discussion, the vote was taken and it was passed.)

*Dr. Rogers (continuing):*

The next item that we were asked to consider was part of Dr. Hope's Report — I would like to reread this part for clarification for the members of the House of Delegates.

".. . . . A bill was introduced in the Senate

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Mr. H.C., 40, taxicab driver, married with four children. Complains of anorectal pain, itching and irritation. Works long hours often in extreme heat in non-air conditioned cab. Sweats a great deal. Sudden perianal swelling two days ago. Similar episode when he was 24 years old. Examination reveals large prolapsing edematous internal and external hemorrhoids.



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to help relieve the pain, itching, burning associated with this and similar anorectal conditions

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**Precaution** Prolonged or excessive use of Anusol-HC might produce systemic corticosteroid effects. Symptomatic relief should not delay definitive diagnosis or treatment.

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ANGP-21

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**Precautions:** Administer with caution to patients with incipient glaucoma, bladder neck obstruction or urinary bladder atony. Prolonged use of barbiturates may be habit-forming.
**Side effects:** Blurred vision, dry mouth, dysuria, and other atropine-like side effects may occur at high doses, but are only rarely noted at recommended dosages.
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In addition, Gantanol diffuses readily into interstitial fluids for antibacterial activity at the foci of the infection.



**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Effective in acute, recurrent or chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella-Aerobacter, Staphylococcus aureus, Proteus mirabilis,* and, less frequently, *Proteus vulgaris*) and in the absence of obstructive uropathy or foreign bodies. *Note:* Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response. Add aminobenzoic acid to culture media of patients receiving sulfonamides. Resistant organisms present a current problem to the usefulness of antibacterial agents. Blood levels should be measured in patients receiving sulfonamides for serious infections, since there may be wide variations with identical doses; 20 mg/100 ml should be the maximum total sulfonamide level, as adverse reactions occur more frequently above this level.

**Contraindications:** Sulfonamide hypersensitivity; infants less than 2 months of age (except adjunctively with pyrim amine in congenital toxoplasmosis); pregnancy at term during nursing period.

**Warnings:** Safe use in pregnancy has not been es lished, and teratogenicity potential has not been thorou investigated. Sulfonamides will not eradicate or preven quelae to group A streptococcal infections, *i.e.*, rheum fever, glomerulonephritis. Deaths from hypersensitivity r tions, agranulocytosis, aplastic anemia and other blood crasias have been reported; early clinical signs such as throat, fever, pallor, purpura or jaundice may indicate ser blood disorders. Complete blood counts and urinalysis careful microscopic examination are recommended freque during sulfonamide therapy. Clinical data are insufficier prolonged or recurrent therapy in chronic renal disease children under 6 years.

**Precautions:** Use with caution in patients with impa renal or hepatic function, severe allergy, bronchial ast and in glucose-6-phosphate dehydrogenase-deficient



**4:30 a.m. Effective through the night.** Each dose of Gantanol (sulfamethoxazole) delivers up to 12 hours of antibacterial action against susceptible thogens, such as *E. coli, Klebsiella-Aerobacter, S. aureus* and others. ction all day. And action all night to prevent retained urine from coming the medium for bacterial proliferation.

**7:30 a.m. With a built-in margin of protection.** Gantanol *b.i.d.* erapy means rapid symptomatic provement, often in 24 to 48 hours, for ost patients with nonobstructed urinary ct infections.



**nonobstructed urinary tract infections**

# Gantanol® B.I.D. (sulfamethoxazole)

**Tablets/Suspension**

**12 hours of therapy with every dose**

als. In the latter, dose-related hemolysis may occur. tain adequate fluid intake to prevent crystalluria and e formation.

**Adverse Reactions:** *Blood dyscrasias:* agranulocytosis, tic anemia, thrombocytopenia, leukopenia, hemolytic nia, purpura, hypoprothrombinemia and methemoglobi-ia; *allergic reactions:* erythema multiforme (Stevens-son syndrome), skin eruptions, epidermal necrolysis, aria, serum sickness, pruritus, exfoliative dermatitis, hylactoid reactions, periorbital edema, conjunctival and al injection, photosensitization, arthralgia and allergic carditis; *gastrointestinal reactions:* nausea, emesis, ab-inal pains, hepatitis, diarrhea, anorexia, pancreatitis and atitis; *C.N.S. reactions:* headache, peripheral neuritis, tal depression, convulsions, ataxia, hallucinations, tin-, vertigo and insomnia; and *miscellaneous reactions:* fever, chills, toxic nephrosis with oliguria and anuria, rteritis nodosa and L.E. phenomenon. Due to certain nical similarities with some goitrogens, diuretics (acetazolamide and thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

**Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age,** except adjunctively with pyrimethamine in congenital toxoplasmosis. Usual dosage is as follows:

*Adults*—2 Gm (4 tabs or teasp.) initially, then 1 Gm *b.i.d.* or *t.i.d.* depending on severity of infection. *Children*—0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, followed by 0.25 Gm/20 lbs *b.i.d.* Maximum dose for children should not exceed 75 mg/kg/24 hrs.

**Supplied:** Each tablet or teaspoonful (5 ml) of suspension contains 0.5 Gm sulfamethoxazole.

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by Senator Harrelson which would completely disassociate the S. C. Medical Association from the Blue Shield organization. It was noted that in 1968 the Blue Cross-Blue Shield organizations were made mutual insurance companies except that it would specify that Blue Shield would continue under its original charter, that is, House of Delegates of S. C. Medical Assoeiation would continue to eleet the Board of Directors of Blue Shield. Council decided to oppose this bill by stating to the Legislative Committee the harm that we felt would be done to the Medical Association and also to Blue Shield if the connection was completely dissolved. After this hearing, the Chairman of the Legislative Committee asked for a committee to be appointed by the Medical Association to eonfer with the eommittee from the Legislature on this bill. Dr. Miller, Dr. Halsted Stone and Dr. Harvey Atwill represented the Medical Association. At this meeting a compromise proposal was tentatively accepted until a meeting of the House of Delegates of S. C. Medical Association at which time a definite decision on the part of the Medical Association was to be made."

Dr. Stone met with our Referenee Committee and made us aware of the fact that the compromise that was worked out and the only thing that would be accepted by Sen. Harrelson's Committee was that seven (7) members of the board would continue to be eleeted by the House of Delegates of the South Carolina Medieal Assoeiation; the other fourteen (14) to be elected by the stockholders of Blue Shield, which would be the policyholders of Blue Shield. Now, it was also noted that it would seem that the House of Delegates under this proposal would completely lose control of Blue Shield; however, the corporate meeting of Blue Shield could continue to be held in May in conjunction with the South Carolina Medical Association's meeting and that all members of the South Carolina Medical Association that held a Blue Shield policy would be entitled to one (1) vote and you would also attempt to obtain proxies from those industries, etc., in your particular area and that, in effect, we probably could have an awful lot to do with the election of the 14 members of the Board of Directors. It was concensus of the opinion of the people who met with Sen. Harrelson on this Bill that he has enough votes now to pass any kind of Bill he wants to pass and, frankly, he did not want the House of Delegates to elect any of the members of the Board of Direetors, so the compromise solution that I just deseribed was considered the best that we could get. On the basis of this, the Committee recommends aeeeptanee of the compromise offering seven (7) physicians elected by the House of Delegates to serve on the Board of Directors of Blue Shield, and I move for the adoption of this.

(The motion was seeonded.)

*Dr. Flowers (Recognized):* Is it true that legislation is always enacted for all mutual insurance companies to establish the composition of their Boards?

*Dr. Halsted M. Stone:* This would apply only to mutual insuranee companies that are chartered in South Carolina. As most of you know, there are not many of the bigger mutual insurance companies that are actually chartered in the State of South Carolina, but the State Legislature has the power and can regulate the makeup of any mutual insurance company that has its eharter in South Carolina.

*Dr. Thomas Parker:* Mr. Speaker, I did not raise this question originally but, certainly, I think it should be presented. It seems to me that we are very likely to adopt a State Foundation or to establish a State Foundation, or at least, that's on our agenda. Incidentally, that was not what was recommended at the meeting in Charleston. At the meeting in Charleston, it was recommended that Foundations be more local, not neeessarily county wide beeause there could be groups of counties but more according to areas of medical practice. At any rate, it eertainly brings up the proposition that if we establish a Foundation which will appeal to different insurers to deal with us, so that we will certify their policies and have screening of this and, therefore, that we will be dealing with, say, Colonial Life, Liberty Life and various other people, and Blue Shield, then we will be subject to eonflict of interest. I don't




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# When you select this familiar antibiotic for IV infusion you have available a broad dosage range that hospitalized patients may need.

Intravenous Lincocin (lincomycin hydrochloride, Upjohn), with its 1.2 to 8 grams/day dosage range, covers many serious and even life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. Lincocin IV therefore can be as useful in your hospitalized patients as its IM use has proved to be in your office patients. As with all antibiotics, *in vitro* susceptibility studies should be performed.

**1.2 to 8 grams/day IV dosage range:** Most hospitalized patients with uncomplicated pneumonias respond satisfactorily to 1.2 to 1.8 grams/day of Lincocin IV. These doses may have to be increased for more serious infections. In life-threatening situations as much as 8 grams/day has been administered intravenously to adults.

In usual IV doses, Lincocin (lincomycin hydrochloride, Upjohn) should be diluted in 250 ml or more of normal saline solution or 5% glucose in water. But when 4 grams or more per day is given, Lincocin should be diluted in not less than 500 ml of either solution, and the rate of administration should not exceed 100 ml/hour. Too rapid intravenous administration of doses exceeding 4 grams may result in hypotension or, in rare instances, cardiopulmonary arrest.

**Effective gram-positive antibiotic:** Lincocin IV is effective in respiratory tract, skin and soft-tissue, and bone

infections caused by susceptible strains of pneumococci, streptococci, and staphylococci, including penicillin-resistant strains. Staphylococcal strains resistant to Lincocin (lincomycin hydrochloride, Upjohn) have been recovered. Before initiating therapy, culture and susceptibility studies should be performed. Lincocin has proved valuable in treating patients hypersensitive to penicillin or cephalosporins, since Lincocin does not share antigenicity with these compounds. However, hypersensitivity reactions have been reported, some of these in patients known to be sensitive to penicillin.

**Well tolerated at infusion site:** Lincocin intravenous infusions have not produced local irritation or phlebitis, when given as recommended. Lincocin is usually well tolerated in patients who are hypersensitive to other drugs. Nevertheless, Lincocin should be used cautiously in patients with asthma or significant allergies.

In patients with impaired renal function, the recommended dose of Lincocin should be reduced to 25–30% of the dose for patients with normal kidney function. Its safety in pregnant patients and in infants less than one month of age has not been established.

**Lincocin may be used with other antimicrobial agents:** Since Lincocin is stable over a wide pH range, it is suitable for incorporation in intravenous infusions; it also may be administered concomitantly with other antimicrobial agents when indicated. However, Lincocin should not be used with erythromycin, as *in vitro* antagonism has been reported.

# Lincocin®

Sterile Solution (300 mg per ml)

## (lincomycin hydrochloride, Upjohn)

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Sterile Solution (300 mg. per ml.)

# Lincocin®

# (lincomycin hydrochloride, Upjohn)

## Up to 8 grams per day by IV infusion for hospitalized patients with life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. As with all antibiotics, *in vitro* susceptibility studies should be performed.

| Each preparation contains: | Lincomycin hydrochloride monohydrate equivalent to lincomycin base |
|---|---|
| 250 mg Pediatric Capsule | 250 mg |
| 500 mg Capsule | 500 mg |
| *Sterile Solution per 1 ml | 300 mg |
| Syrup per 5 ml | 250 mg |

*Contains also: Benzyl Alcohol 9 mg; and, Water for Injection—q.s.

Lincocin (lincomycin hydrochloride) is indicated in infections due to susceptible strains of staphylococci, pneumococci, and streptococci. *In vitro* susceptibility studies should be performed. Cross resistance has not been demonstrated with penicillin, ampicillin, cephalosporins, chloramphenicol or the tetracyclines. Some cross resistance with erythromycin has been reported. Studies indicate that Lincocin does not share antigenicity with penicillin compounds.

CONTRAINDICATIONS: History of prior hypersensitivity to lincomycin or clindamycin. Not indicated in the treatment of viral or minor bacterial infections.

WARNINGS: *CASES OF SEVERE AND PERSISTENT DIARRHEA HAVE BEEN REPORTED AND HAVE AT TIMES NECESSITATED DISCONTINUANCE OF THE DRUG. THIS DIARRHEA HAS BEEN OCCASIONALLY ASSOCIATED WITH BLOOD AND MUCUS IN THE STOOLS AND HAS AT TIMES RESULTED IN AN ACUTE COLITIS. THIS SIDE EFFECT USUALLY HAS BEEN ASSOCIATED WITH THE ORAL DOSAGE FORM BUT OCCASIONALLY HAS BEEN REPORTED FOLLOWING PARENTERAL THERAPY.* A careful inquiry should be made concerning previous sensitivities to drugs or other allergens. Safety for use in pregnancy has not been established and Lincocin (lincomycin hydrochloride) is not indicated in the newborn. Reduce dose 25 to 30% in patients with severe impairment of renal function.

PRECAUTIONS: Like any drug, Lincocin should be used with caution in patients having a history of asthma or significant allergies. Overgrowth of nonsusceptible organisms, particularly yeasts, may occur and require appropriate measures. Patients with pre-existing monilial infections requiring Lincocin therapy should be given concomitant antimonilial treatment. During prolonged Lincocin therapy, periodic liver function studies and blood counts should be performed. Not recommended (inadequate data) in patients with pre-existing liver disease unless special clinical circumstances indicate. Continue treatment of β-hemolytic streptococci infections for 10 days to diminish likelihood of rheumatic fever or glomerulonephritis.

ADVERSE REACTIONS: *Gastrointestinal*—Glossitis, stomatitis, nausea, vomiting. Persistent diarrhea, enterocolitis, and pruritus ani. *Hemopoietic*—Neutropenia, leukopenia, agranulocytosis, and thrombocytopenic purpura have been reported. *Hypersensitivity reactions*—Hypersensitivity reactions such as angioneurotic edema, serum sickness, and anaphylaxis have been reported, sometimes in patients sensitive to penicillin. If allergic reaction occurs, discontinue drug. Have epinephrine, corticosteroids, and antihistamines available for emergency treatment. *Skin and mucous membranes*—Skin rashes, urticaria, vaginitis, and rare instances of exfoliative and vesiculobullous dermatitis have been reported. *Liver*—Although no direct relationship to liver dysfunction is established jaundice and abnormal liver function tests (particularly serum transaminase) have been observed in a few instances. *Cardiovascular*—Instances of hypotension following parenteral administration have been reported particularly after too rapid IV administration. Rare instances of cardiopulmonary arrest have been reported after too rapid IV administration. If 4.0 grams or more administered IV, dilute in 500 ml of fluid and administer no faster than 100 ml per hour. *Special senses*—Tinnitus and vertigo have been reported occasionally. *Local reaction*—Excellent local tolerance demonstrated to intramuscularly administered Lincocin (lincomycin hydrochloride). Reports of pain following injection have been infrequent. Intravenous administration of Lincocin in 250 to 500 ml of 5% glucose in distilled water or normal saline has produced no local irritation or phlebitis.

HOW SUPPLIED: *250 mg* and *500 mg* Capsules—bottles of 24 and 100. *Sterile Solution, 300 mg per ml*—2 and 10 ml vials and 2 ml syringe. *Syrup, 250 mg per 5 ml*—60 ml and pint bottles.

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see how it could be otherwise. We might not be guilty of any wrongdoing but we certainly will be dealing with our company and other companies. Now I believe we would be much better advised to let Sen. Harrelson's Bill go through and disassociate ourselves completely, if we propose to do this other thing.

*Dr. Stone:* I would like to say this that, actually, as far as what Sen. Harrelson had in mind, he originally offered 25% but you can't take 25% really of 21 and there are 21 members of the Board so they changed to make it 1/3, which would be 7. This would not actually give us control of Blue Shield. And the point of the question was – is this legal or not and, actually, this is legal for the Association to elect these 7 people with staggered terms. I don't think it would be a conflict of interest if only 1/3 of the Board was actually elected by the Medical Association for the other part of the Board would then be elected by the policyholders of Blue Shield. Actually, on paper, we would not be in control of Blue Shield.

*THE CHAIR:* Thank you, Dr. Stone. Are there any other questions or comments relative to the question at hand? Are you ready for the question? Let me clarify this – the Reference Committee recommends that we adopt the Bill, as amended, that the House of Delegates would elect 7 members to this Board.

(The vote was taken by a show of hands, and the recommendation of the Reference Committee was carried.)

*Dr. Rogers (continuing):*

"The Report of the Committee on Public Relations has been received and reviewed. We congratulate them on their good work. We recommend they increase their activity on internal and external levels to entice and encourage all physicians of this State to become and remain members of the South Carolina Medical Association. I move for the adoption of this report."

(This motion was seconded, there was no discussion, the vote was taken and it was passed.)

*Dr. Rogers (continuing):* The Report on Committee on Legislative Activities was accepted and we congratulate them on their work. The Committee recommends that the House of Delegates especially thank Dr. Frank C. Owens for his contribution. We recommend that they continue with the help of the local societies their compilation of a list of key contacts to help us with legislative matters. The Committee further suggests that the Legislative Committee seek counsel, advice and help of the A. M. A. representatives in developing programs to establish better rapport with our legislators. I move for the adoption of this Report.

(This motion was seconded, there was no discussion, the vote was taken and it was passed.)

*Dr. Rogers (continuing):* Report of Committee on Liaison with Allied Professions—we suggest they become more active and establish communication and liaison with the allied health professions. I recommend the adoption of this Report.

(This motion was seconded, there was no discussion, the vote was taken and it was passed.)

*THE CHAIR:* Does that end your Report?

*Dr. Rogers:* Yes, sir.

*THE CHAIR:* Since there have been no amendments to any of the articles in the Report and since there are no unfavorable votes, then the Committee's Report as a whole will be adopted as favorable.

*DR. J. D. THOMAS, VICE-PRESIDENT, PRESIDING:*

*THE CHAIR:* We will now have the Report of the Reference Committee on Public and Industrial Health, Dr. Martin.

*Dr. John B. Martin, Jr., Anderson:* First, I would like to thank the members of my committee for their diligent work and, also, the several people who appeared before our committee to inform us better so that we could act on these various proposals.

This Committee was asked to consider the following Committee Reports:

1. *Committee on Alcoholism and Drug Abuse.*

In this Committee Report, it was stated that an effort was being made to include drug abuse as part of the Commission on Alcoholism's responsibility. We had several members of the Executive Committee of the State

Board of Health to appear before our Committee in opposition to this transfer of responsibility. Dr. Hall, unfortunately, was not able to appear but we did have a letter from him in strong opposition to this. Therefore, our Committee would like to move that the South Carolina Medical Association go on record as being in favor of continuing the control of drug abuse in the Narcotics Control Division of the State Board of Health and the Department of Mental Health and that the Commission on Alcoholism continue its only statutory function of providing education about alcoholism.

I would like to move that we adopt this.

(This motion was seconded, there was no discussion, the vote was taken and was passed.)

*Dr. Martin (continuing):* We considered the Committee on Maternal Mortality's Report as printed in the January, 1971, issue of the Journal; the Report of the Executive Committee of the State Board of Health, as published in the Journal of April, 1971; and the Report of the Committee on Industrial Medicine, as published in the Journal of April, 1971. We would like to recommend adoption of these Reports and commend these individuals for their work and we would like to, particularly, commend the Committee on Industrial Medicine for their work during the past year. And I so move.

(This motion was seconded, there was no discussion, the vote was taken and it was passed.)

The committee was asked to study two Resolutions.

1. The Resolution from Horry County Medical Society concerning improvement of family planning and health education. The Committee felt that this is an excellent Resolution. However, with the concurrence of Dr. Collins, who presented this Resolution, we edited the Resolution somewhat and this was received.

RESOLUTION: TO IMPROVE FAMILY PLANNING AND HEALTH EDUCATION

PROPOSED BY: HORRY COUNTY MEDICAL SOCIETY

WHEREAS, South Carolina's fetal mortality rate is the third highest in the nation, and whereas high-risk obstetrical patients in all socioeconomic categories should ideally be identified before they conceive and *must* be identified early in pregnancy so that they may receive specialized care;

WHEREAS, South Carolina has had the highest percentage of rejections by draft boards for mental reasons of any State in the nation, and a growing number of chromosome defects and metabolic disorders can now be diagnosed early in pregnancy by amniocentesis;

WHEREAS, we must reduce mental retardation and minimize the crappling physical and emotional disorders of children and adults and whereas our emphasis upon maternal and child health must begin prior to conception and continue through childhood, adolescence and adulthood, family planning should not ignore individual child-producing and child-rearing capabilities, as the most important product of this State is a wanted child who is well born and healthy.

WHEREAS, South Carolina has a ratio of only 5 obstetricians for every 100,000 population and personnel and facilities are insufficient in quantity to give adequate care to all women now and in the foreseeable future;

BE IT RESOLVED THAT WE, THE SOUTH CAROLINA MEDICAL ASSOCIATION, DO HEREBY RECOMMEND:

1. Encouragement to health centers for comprehensive health eare and for family planning education in addition to the expansion and improvement of public health clinics.

2. Expansion of support for educational and service programs in family planning, including training of paramedical personnel.

3. In recognition of the importance of high quality human reproduction, support of programs in our public schools taught by adequately trained personnel as a separate subject that includes instructions in parenthood and family life.

4. The State Board of Health establish a Family Protection Board to legally authorize sterilization procedures on males and females after proper medical evaluation and documentation of their mental incompetency has been obtained.

I move that the Association go on record

as favoring the principles of this Resolution.

*Dr. Thomas Parker, Greenville:* I would like to speak on one paragraph only and that is the paragraph having to do with instruction on family living, etc., in the public schools by adequately trained personnel. I don't think that this is spelled out in detail in the Resolution but, at least, we should be familiar with what is going on in other parts of the country. This is usually known — or is usually expanded into what is called the K-12 Program, and this means that they start instruction — of course, in other places, it is called sex education — from kindergarten through the 12th grade, that this subject is taken up as such every year, possibly not all year but it is a separate Department. The teachers who are adequately trained as specified have as their qualifications, among others, the ability to adjust without reaction to various situations; and because these courses are in the public schools, of course, there can be nothing having to do with religion with regards to family relationships and that sort of thing. This ignores what many psychiatrists and psychologists refer to as the maturation gap. This, basically, is the concept that — whereas, of course, boys and girls are males and females from the time they enter this world but there is a period of time at which boys are interested in being cowboys and Indians, cops and robbers, or something; and girls are interested in mud pies and paper dolls and they are not interested in each other. We need not go into all the scientific argument on this subject but you all are perfectly aware of the fact that there was a time when it was a curse to have to go to dancing school and when the people who like girls were sissies, etc., so there is a period of time when boys and girls are not interested in each other. I believe that for us to introduce into the schools — or to recommend or to support — a separate program and that's what we are talking about, on the subject of sex education — which, again, is what we are talking about — with no relation to religion so that we are strictly talking about physiology, anatomy and that sort of thing, is a mistake; and that it has proven wrong in other areas of the country. We would do much better to let these subjects come up naturally not to be avoided — I don't mean not at all — but to be dealt with as they arise in other subjects. We would do very well to strike from this Resolution this particular paragraph. In realization of the five minute limitation, I will not say anymore on this subject except to move that we delete this particular paragraph from the Resolution as a matter of policy.

*THE CHAIR:* Since we have a motion, is there a second to this motion?

*Dr. Wm. T. Hendrix, Spartanburg:* I would like to second Dr. Parker's Motion. I am a member of a school board in Spartanburg, having been on there some 9 years. This question has come up all over the country. Feeling that being the only M. D. on the School Board, I would have to answer questions if it came up in our community, I have tried to read a good bit in the School Board's Journal and other Journals, as to what has taken place over the country. At present, if I understand the literature, it is causing more harm than good, in most of the schools. In a great many places, the School Board meetings are taken over by irate parents that are coming in complaining of the program, and interrupting things. Actually, there was on one of the school boards a test given to high school students after the course. If you were to read it, you would be surprised. Most people would not even have that information when they get married. The questions asked were utterly ridiculous prepared by some — I am sure — well-meaning but misinformed teacher asking high school students about foreplay, afterplay and all sorts of questions like that — this in high school. So I feel at the present with the mood over the country, it is very questionable that we should go on record as recommending this coming from the Medical Association.

*Dr. Richard C. Slocum, Columbia:* I am interested in the fact that the Judiciary has ruled out religion in our schools and we are going to interject sex.

*Dr. James C. Hughes, Conway:* I would like to make an attempt to clarify the intent behind this particular paragraph in the initial Resolution. It was the feeling of the author of the Resolution and of the Horry County

Medical Society in presenting the Resolution that we did feel there was a crisis at hand in this particular area, and the crisis has been at hand for some time. We feel that attitudes toward sex, promiscuity and sex, and the use of drugs is usually developed by age of eleven or thereabouts. It was felt that each community should stress its own needs in their program — local programs according to the needs of their local culture. We weren't intending to propose sex education, as such, but really wish to stress the importance of high-quality reproduction. It is difficult, I agree, to disassociate this from sex education in some ways. We also intended to stress the responsibilities of parenthood and the interpersonal relationships within the family; religion, not the teaching of religion but I think some awareness of religion would have to be brought into this some way. I realize that this conflicts in some ways with the previous Courts' decisions about the teaching of religion or religion in the schools. There is not going to be any real curriculum within our universities in this State in health education — that is, to train people in health education — until a need for them exists. As our public schools now stand, no need really exists. We don't have any legislation which calls for this. We feel that our universities or we are told that our universities will have curriculum for Master's Degree and doctorate degrees in health education if we take a stand indicating that we feel some need exists in this area in our public schools. Thank you.

*THE CHAIR:* Any further discussion? If not, we will first vote on the Motion to delete the following paragraph:

"In recognition of the importance of high quality human reproduction, support of programs in our public schools taught by adequately trained personnel as a separate subject that includes instructions in parenthood and family life."

(The Motion had been seconded, the vote was taken and the Chair declared that the paragraph would be deleted.)

*THE CHAIR:* We will now vote on this Recommendation with the one paragraph (#3) being deleted.

(The Motion had been seconded, the vote was taken and it was so ordered.)

*Dr. Martin (Chairman of Reference Committee (continuing):*

The second Resolution was from Collenton County Medical Society regarding the South Carolina Medicaid Program formulary. Our Committee agrees with the sponsors of this Resolution that this is a profound problem. We felt that this deserved a great deal of study and we would like to move that the President of the Association appoint a study committee to review this problem and negotiate with Dr. Ellis of the Department of Public Welfare to try to develop an acceptable solution and we would further like to request that adequate number of representatives of the S. C. Academy of General Practice be included in this group since the family physicians are the ones who deal most regularly with this frustrating problem. We so move.

(The motion was seconded, there was no discussion, the vote was taken and it was passed.)

*Dr. Martin:* I would like to move for acceptance of this Report with the deleted paragraph from the Horry County Resolution.

(The motion was seconded, the vote was taken and it was passed.)

*THE CHAIR:* We will now have the Report of the Reference Committee On Amendments to the Constitution and By-Laws, Dr. Swift Black, Chairman.

*DR. SWIFT C. BLACK, Chairman:* "The Reference Committee on Amendments to the Constitution and By-Laws had some rather complex matters to consider this year and the Committee directed me to ask Mr. Meadors and his staff to assist in the completion of this Report.

"First, there were a series of Amendments proposed by the Standing Committee on Constitution and By-Laws. In view of the adoption at the Monday session of the Amendment to the Constitution providing for a Speaker and a Vice-Speaker, the following Amendment to the By-Laws to outline their duties was proposed:

"Amend the By-Laws by adding to Chapter VI, two additional sections to be num-

bered Section 7 and Section 8, and reading as follows:

'Section 7. The Speaker of the House of Delegates shall preside over all meetings of the House of Delegates. He shall also serve as a non-voting member of the Council concurrent with his term of office. It shall be his duty to preserve order and to follow the proper parliamentary procedures. It shall be the duty of the Speaker to have the representative of each component county medical society checked by the Committee on Credentials at the time of the Annual Session and to fill any vacancy by appointment. Temporary appointees shall be members of the component society having the vacancy. He shall appoint the House of Delegates' Reference Committee and Credentials Committee. He may vote in the House of Delegates only in case of a tie ballot.'

Mr. President, we recommend the adoption of this Amendment and I so move.

*Doctor from the floor:* Mr. President, we need to spell out the length of his term.

*THE CHAIR:* This is in the Constitution.

*Doctor from the floor:* I would like to inquire if this giving him the capacity to appoint delegates not in attendance, if this in any way supersedes the right of the Society to send alternate delegates in lieu of its elected delegates, as is now provided; or do you mean that should that prerogative not be asserted, he would then have this prerogative or would he have the prerogative to elect delegates without any consultation with the constituent society?

*Dr. Black:* It was the intent of the Committee that this be an emergency measure sort of deal.

*Doctor from the floor:* I would like that the Committee add that to this to specify that this would not supersede the right of the constituent society to elect and send their own delegates.

(This motion was seconded, there was no discussion, the vote was taken and it was passed.)

*THE CHAIR:* Now is there any further discussion—Dr. Cain.

*Dr. J. P. Cain, Jr.* (*Recognized*) Does this mean that he can appoint a delegate at large from anywhere?

*THE CHAIR:* No sir. It says specifically that he must be from that medical society.

Are there further questions or discussion? Dr. Slocum.

*Dr. Richard C. Slocum* (*Recognized*): I would like to hear it reread.

*THE CHAIR:* Will you reread it and try to add that—

*Dr. Black:* Mr. Speaker, I will let her add that part. (Reading) 'The Speaker of the House of Delegates shall preside over all meetings of the House of Delegates. He shall also serve as a non-voting member of the Council concurrent with his term of office. It shall be his duty to preserve order and to follow the proper parliamentary procedures. It shall be the duty of the Speaker to have the representative of each component county medical society checked by the Committee on Credentials at the time of the Annual Session and to fill any vacancy by appointment. Temporary appointees shall be members of the component society having the vacancy. He shall appoint the House of Delegates reference committees and credentials committee. He may vote in the House of Delegates only in case of a tie ballot'

*Dr. Slocum* (*Recognized*): I would like to make a statement. I think the President should elect the Reference Committees, not the Speaker. I think it should be amended. I make a motion that this be amended. (The motion was seconded.)

*THE CHAIR:* Is there any discussion on this amendment which has been seconded? (There was none.) We will vote on this amendment that the President appoint the Reference Committees. (The vote was taken and the amendment passed.) Now, we will try to vote on the recommendation of the Reference Committee which will be adopted as read except for the two (2) exceptions—that the President rather than the Speaker of the House will appoint the Reference Committees and, secondly, that the Speaker of the House will have the right to appoint temporary members of the House when the societies which have been represented do not have representatives present, either duly

elected as primary or as alternate delegates to the House. Is this understandable to everyone? This requires a two-thirds vote since it is a change in the By-Laws, so if you will please stand.

(The vote was taken and it was passed.)

*Dr. Black (continuing):* (Reading from Report)

'Section 8. The Vice-Speaker of the House of Delegates shall preside over the House of Delegates in the absence of the Speaker. The Vice-Speaker shall be an ex-officio member of the Council without the right to vote. In the event of the Speaker's death, resignation, or inability to serve, the Vice-Speaker shall succeed him for the unexpired term.'

Mr. President, we recommend the adoption of this Amendment and I so move.

(The motion was seconded, there was no discussion, the vote was taken and it was passed.) (By standing vote)

*Dr. Black (continuing):* This Report is obviously going to be the report of exercise.

The following Amendments relating to membership were also considered by the Committee .*(Reading from Report ):*

"Amend Chapter I, Section 3 of the By-Laws of the South Carolina Medical Association by deleting the word "consecutive" on the second line of said section, so that the first sentence of said section shall read as follows:

'Any physician who has been a member in good standing for forty years automatically shall become an Honorary Member of the Association.'

Mr. President, we recommend the adoption of this Amendment and I so move.

(The motion was seconded, there was no discussion, the vote was taken by standing count, and it was passed.)

*Dr. Black* (Reading from Report): "Amend Chapter I of the By-Laws of the South Carolina Medical Association by adding another section at the end to be numbered Section 8, and to read as follows:

'Section 8. There shall be a special class of non-voting membership composed of students, interns and residents who are being trained within the State of South Carolina.'

Mr. President, we recommend the adoption of this Amendment and I so move.

(The motion was seconded, there was no discussion, a standing vote was taken and it was passed.)

*Dr. Black (continuing):* "Amend Chapter I of the By-Laws of the South Carolina Medical Association by adding another section to be numbered Section 9, and to read as follows:

'Any member of the South Carolina Medical Association who becomes disabled and is forced to give up active practice for that reason, shall be entitled to continue his membership in the Association without the payment of dues until the end of such disability, and shall be carried on the rolls as a regular member during the period of such disability.'

Mr. President, we recommend the adoption of this Amendment and I so move.

*THE CHAIR:* Thank you, sir. We recognize Dr. Parker.

*Dr. Thomas Parker, (Recognized):* Mr. Speaker, I would be happy to have them vote on this and then speak.

(Dr. Black's motion was seconded, there was no discussion, the vote was taken and it was passed.)

*Dr. Thomas Parker, Greenville:* Mr. Speaker, I simply wanted to ask about the student and other members who are non-voting are they also non-dues paying, was that part of the Amendment? At least, I believe it should be if it isn't.

*THE CHAIR:* It is. Dr. Slocum.

*Dr. Richard C. Slocum (Recognized):* This Resolution we just passed — where are the funds? It's just like a Bill in Congress, so far as I can see, it's unfunded. I don't know where the money is.

*Dr. Black (answering):* This particular one was simply to just cancel his dues during the time of his disability.

*Dr. Slocum:* I said the Benevolent—

*Dr. Black:* We haven't gotten to that one yet. That's coming. This particular one was just canceling his dues while he's disabled. May I reread Section 9? 'Any member of the South Carolina Medical Association who becomes disabled and is forced to give up active practice for that reason, shall be entitled to continue his membership in the Association without the payment of dues until the end of

such disability, and shall be carried on the rolls as a regular member during the period of such disability.' And as a matter of clarification, this was in order to keep continuity of membership because of disability. Yours is coming up now.

Several other Amendments to the By-Laws were also presented. (*Reading from Report*)

"Amend Chapter IV, Section 1 of the By-Laws by striking out everything in said section after the words "Annual Session" on the third line, and by adding instead the following:

'but may complete its regular business, including the election of officers, before or after the General Meeting, as it may see fit.'

This was inserted as a matter of clarification in order to have the Scientific Session between the Monday and Wednesday sessions of business.

Mr. President, we recommend the adoption of this Amendment and I so move.

(This motion was seconded, there was no discussion, the vote was taken and it was passed.)

*Dr. Black (continuing):* In Chapter VIII, Section 4 — Committees — Add "Benevolence Fund Committee"; and then amend Chapter VIII by inserting a new section to be numbered Section 19 and by renumbering the following sections to conform, said Section 19 to read as follows:

'Benevolence Fund Committee. This shall be a standing committee of three (3) members to serve three (3) years, staggered, so that there will be continuity. This Committee shall administer funds to a beneficiary after he has been determined eligible. The rules and regulations are to be made by the Committee. No member shall be eligible to serve more than two (2) consecutive terms. After a lapse of one (1) year, he shall be eligible for re-election. Council shall nominate two (2) members yearly to be presented to the House of Delegates for the election of one (1) member to serve a three (3) year term.'

Mr. President, we recommend the adoption of this Amendment and I so move.

(This was seconded, voted on and passed with no discussion.)

*Dr. J. Howard Stokes, Florence (Recognized):* Whenever you mention the Benevolence Committee, there immediately comes to mind a very distinguished physician, who just this past week died, Dr. William Atmar Smith. I believe it was he who either initiated this Benevolence Committee or either during his term of office it came about; and I would like to pay a tribute to this great man for a very great service to medicine. Thank you.

*THE CHAIR:* Thank you, Dr. Stokes.

*Dr. W. L. Perry, Chesterfield:* Mr. President, if it is possible for this House to stand in memoriam to Dr. Smith, I move that we do so.

(This motion was seconded and the House stood in memoriam to Dr. William Atmar Smith.)

*THE CHAIR:* Thank you. Dr. Black.

*Dr. Swift C. Black (continuing):* In Chapter VIII, Section 4 — Committees — add "Peer Review Committee"; and then amend Chapter VIII by inserting a new section immediately following the new Section 19, to be numbered Section 20, and by renumbering the following sections to conform, said Section 20 to read as follows:

'Peer Review Committee. This Committee shall consider all cases referred to it relating to the appropriateness of professional services and/or fees rendered by a physician to a patient or group of patients, and any action by any third party referable to these services and fees. The Committee shall be composed of ten (10) members of the South Carolina Medical Association, one (1) from each medical district and one (1) elected at large. They shall be elected by the House of Delegates from nominees submitted by the Council. Council shall submit two (2) nominees for each position; not more than one nominee may come from any one county. Council shall determine from each nominee his willingness to serve, prior to submission of his name to the House. Term of office shall be three (3) years, and no member may serve more than two (2) consecutive terms. The terms of the district representatives shall be staggered by having them coincide with the terms of the Councilors of their respective districts. Any vacancy on the Peer Review Committee

shall be filled by an appointee of Council. At the next Annual Meeting of the House of Delegates, Council shall present to the House the name of this appointee together with one additional nominee, for election to fill the remainder of any unexpired term.'

Mr. President, we recommend the adoption of this Amendment and I so move.

*THE CHAIR:* Thank you, sir. I believe this is the method of doing what we gave the Council the authority to do as an emergency measure last year and it's continuing the same committee that was set up at that time. Is there any discussion or questions? Dr. Holmes – will you come to the microphone, please, sir?

*Dr. Charles R. Holmes, Columbia (Recognized):* I am Dr. Holmes from Columbia, and I feel that the composition of this Committee is very important and one that the House should consider, perhaps, in more detail. I feel the composition, perhaps, should not be related to the political subdivisions of the SCMA but should be related more to the specialties, and I would like to move that rather than having an appointee from each district that each of the specialties, including the specialty of General Practice, be represented and that this method of the composition of the Peer Review Committee be continued.

*THE CHAIR:* Excuse me, Dr. Holmes – this method be what now?

*Dr. Holmes:* The method that each specialty be represented be a continued thing rather than based upon political subdivisions.

*Dr. John C. Hawk, Jr., Charleston (Recognized):* I was Chairman of the Committee last year that drew up this entire proposal for Peer Review and we discussed this entire matter in great detail before we brought it here. It was felt that it would become rather unwieldy to provide both regional or district representation and specialty representation. The number of specialty groups involved can be considerable and, therefore, set up in the proposal last year which becomes still, having been adopted by the House, will be still the modus operandi of the Peer Review Committee until it has been changed. There is a Section 8 – 'Each of the organized specialty societies in the State shall be invited to designate one (1) member with one (1) alternate as consultants to the Peer Review Committee. The Committee itself or any of the parties involved in a specific case may request that the appropriate consultant give an opinion in writing on the case or appear at the committee hearing at which the case is to be discussed.' It was felt that this would give each of the specialty groups – whether it be General Practice or others – the opportunity to appear and would give any person whose case was being considered the opportunity to have representation from his own specialty peer group. And it was for this reason after a great deal of discussion in our Committee and then subsequent discussion in Council that it was felt that it would be better to have this committee composed geographically and to have the specialty consultants available to take care of problems. Now it was recognized that it would be possible for this Committee to become overloaded with one group– surgeons, internists, what have you. However, since these nominees come from Council and are considered carefully by Council and two (2) nominees must be made for each position and then the House of Delegates, in its wisdom, can decide between those two. It was felt very unlikely that any loading by any one specialty group would be likely to occur and for that reason, I would like to speak against the suggestion or amendment of Dr. Holmes', which, I believe, will complicate the setting up of this Peer Review Committee unduly. Thank you.

*Dr. Holmes:* In view of the clarifying remarks by Dr. Hawk, I will withdraw my motion.

*THE CHAIR:* Thank you, sir. Does anyone further wish to speak on this?

(There was no further discussion, the vote was taken and passed.)

*Dr. Swift C. Black (continuing):* Amend Chapter XII by adding a new section to be numbered Section 3 and to read as follows; and by renumbering the following sections to conform:

'Resolutions to be introduced at the Annual Meeting of the House of Delegates of the S. C. Medical Association must be submitted

to the Secretary not later than ten (10) days prior to the Annual Meeting at which it is to be presented, and that should an emergency occur requiring submission of a Resolution without such notice, two-thirds (2/3) of the members present and voting shall be required to admit such a Resolution to the House.'

Mr. President, we recommend the adoption of this Amendment and I so move.

(The motion was seconded.)

*THE CHAIR:* Dr. Slocum.

*Dr. Richard C. Slocum, Columbia (Recognized ):* I would like to speak against this Resolution. I think this is restrictive and I think a person can come here and present his Resolution from the table just as I did yesterday or day before yesterday and I would speak against the Amendment.

*Dr. Forde A. McIver, Charleston (Recognized):* I believe I could have written it better and you folks would have understood it better had I done it before I got here. I think this can be done without any great damage. They could be drawn up and forwarded to us before the meeting. I believe that the emergency provision does permit the introduction of really important things. Maybe it would be better if this were delayed somewhat for further study and discussion .

*Dr. Guy C. Heyl, Jr., Aiken (Recognized):* I am Guy C. Heyl, of Aiken, and I would like to speak against this. I think the system that we have set up already, namely, to have Resolutions presented, considered by a committee, and brought back to this body the last time for deliberation; and I think that basically to restrict our rights to say anything we want to about anything on the spur of the moment or at any other time is going to take away from us some possibility of considering things of importance.

*THE CHAIR:* Thank you. Any further discussion? Dr. Hawk.

*Dr. John C. Hawk, Jr., Charleston (Recognized:)* I think there is in general great merit in having resolutions prepared and presented as far in advance as possible. This time interval is actually more restrictive even than the one that the AMA has, which, if I remember correctly, is two or three days, Dr. Parker? There should be, I believe, a restrictive feature. I think that if we do adopt such a measure as this, that we should engage facilities to have all of our Resolutions that are presented in such a time in advance printed and available so that you can actually read them and study them and I think there is every advantage to that. However, I do believe that 10 days may be unduly restrictive because there could be county medical societies that would meet even closer than that depending on what day of the month or what part of the month the state meeting happened to occur and this does vary according to the availability of facilities as we will hear later today. It would appear to me that completely in line with Dr. McIver's thinking that the reasonable thing would be for this motion to be represented a suitable interval before the next meeting.

*THE CHAIR:* Thank you, sir. Any further discussion? I believe we have just the original recommendation on the floor. All in favor of the adoption of the By-Laws as presented by the Committee, please raise your hand. Those opposed. (After counting those voting) The Chair declares that two-thirds (2/3) did not vote for this so it was defeated.

*Dr. Black (continuing):* Amend Chapter XII, Section 3, by striking out in Line 3 the words "Robert's Rules of Order" and inserting in lieu thereof the words "Sturgis' Standard Parliamentary Procedure". Mr. President, we approve the adoption of this recommendation and I so move.

(This motion was seconded, there was no discussion and it was passed.)

Mr. President, we move the adoption of the Committee Report as a whole, as amended. (Seconded, voted on and passed.)

*THE CHAIR:* Thank you, sir. Dr. McIver.

*Dr. Forde A. McIver, Charleston:* In view of the many changes, I would like to ask the Chair if we can be assured that there will be a revised published edition of the Constitution and By-Laws before the next Speaker of the House has to take over or if we should have or would like to have a motion to this effect. (Mr. Meadors assured the President that this had been noted and no motion was needed.)

*Dr. Black (continuing):* Mr. President, the

members of the Committee would like to express our thanks to the members of the staff of the South Carolina Medical Association for their kind and able assistance in preparing this Report.

Respectfully submitted,
Swift C. Black, M. D., Chairman
Kenneth N. Owens, M. D.
Max Anderson, M. D.
Albert E. Cremer, M. D.
Lucius M. Cline, Jr., M. D.

*THE CHAIR:* Thank you very much.

*DR. BEN N. MILLER, PRESIDENT, PRESIDING:*

*THE CHAIR:* The House of Delegates is now in order. We are now under the heading of Reference Committee on Insurance, Blue Cross-Blue Shield, and I will call on Dr. Louie Jenkins to give his Report. I will ask him to read the Report in toto and then we will go back and consider the various items — First, just as a special recognition, I would like to recognize Dr. John Webb for an introduction and a comment.

*Dr. John Webb, Greenville:* Mr. President and delegates, I would just like to take this opportunity to recognize a great-grandfather who has been coming to this meeting forty-nine consecutive years as a representative of the Winchester Supply Company. He has been a friend of doctors over the years. I'm a personal friend of his. He called on me when I first started in practice and I would just like you to give a hand to this mighty wonderful fellow, Murphy Conder. Stand up, Murphy.

*Mr. Murphy Conder, Representative of Winchester Supply Company:* I am mighty happy and I would like to ask those who attended the meeting with me 49 years ago to please stand. (No one stood) Well, it looks like I'm a loner here but I do want to thank you very much for this recognition. Thank you, Dr. Webb, sir, and, gentlemen, thank you very much.

*THE CHAIR:* Thank you, Dr. Webb, for bringing this to our attention.

Dr. Jenkins, we will now have your Report

*Dr. Louie B. Jenkins, Chairman:* This is the Report of the Reference Committee on Insurance, Blue Cross-Blue Shield.

The Columbia Medical Society's Resolution "seeking appropriate action through the South Carolina Medical Association and through the Legislature of South Carolina to require health and hospital insurance companies to provide for outpatient benefits for procedures which are covered for inpatients" was approved by the Committee.

The Committee approved the Resolution of the Columbia Medical Society "that any information other than confidential patient information should be made readily available to members of the Board of Directors of Blue Shield or members of Council of the South Carolina Medical Association upon request".

The Columbia Medical Society's Resolution "that the House of Delegates direct the Board of Directors to initiate a complete audit of Blue Shield of S. C. by a management consultant, preferably one specializing in health and hospital insurance" was considered by the Committee. Despite the argument that the numerous audits that Blue Shield is subjected to by various governmental agencies do not include operating procedures, the Committee could not determine sufficient reasons to direct an audit. The Committee recommends it should be left to the Board of Directors to decide if an audit is indicated, in view of the objections raised to the audits now conducted.

The Resolution of the Columbia Medical Society "that the House of Delegates direct the Board of Directors to replace the present legal counsel and the accounting firm to Blue Shield as expeditiously as possible" was discussed by the Committee. The consideration that a possible conflict of interest occurred and that other able lawyers and accounting firms are available was outweighed, in the opinion of the Committee, by the fact that no illegal action occurred, that the Executive Committee of Blue Cross was aware of the proceedings and that such ability as possessed by the individuals concerned should be available for use if needed by the Board of Directors. The Committee disapproved of directing the Board of Directors to undertake such action, but recommends to the House of Delegates that it be left to the discretion of the Board of Directors to determine if such an action is warranted.

The Committee considered the Columbia Medical Socicty's Resolution "that the House of Delegates direct the Board of Directors to replace the present Executive Director of Blue Shield as expeditiously as possible". The presentation of the case of a credibility gap, the possible conflict of interest, the possibility of self aggrandizement by the maneuvers, the damaging effect of the Publicity, the admitted mistake in judgment of not informing the Board of Directors of the steps being taken were carefully evaluated by the Committee. The Committee considered that the greatest single factor in the solvency and growth of a company is its management. The record of growth of Blue Shield is a compliment to its management and overreaches the occurrence of a mistake in judgment. From the events, lessons should be learned on both sides of management and the Board of Directors. The Committee believes that no future action of magnitude should be taken by the Executive Director without the advise and consent of the Board of Directors, and that the Board of Directors should make every effort to keep itself informed of the actions of management. It is the opinion of the Committee that the punishment already received is sufficient payment for a mistake in judgment. The Committee, therefore, disapproves of directing the replacement of the Executive Director. The Committee recommends that if replacement is necessary, the Board of Directors should have the responsibility of the decision, exerted in the best interests of Blue Shield.

The Resolution of the Columbia Medical Society "that the House of Delegates instruct the Board of Directors of Blue Shield that if it is deemed desirable to sell any other kind of insurance, that Blue Shield be the issuing company or set it out to competitive bids to companies who have no interlocking or overlapping interests or personnel with Blue Cross or Blue Shield" was approved in principle by the Committee. The Committee was of the opinion that the Board of Directors of Blue Shield should not have its hands tied if other arrangements are to the better advantage of Blue Shield.

The Columbia Medical Society's Resolution "that the A. M. A's Second Edition *Current Procedural Terminology* (CPT) with its flexible five digit system should be endorsed by the South Carolina Medical Association and adopted by Blue Shield" was deemed by the Committee to be desirable, but needlessly expensive and impractical at the present. The Committee recommends that the Resolution be laid on the table until a uniform coding system has been achieved.

It would have been insouciant for the Committee not to have heard long discussion and not to have held lengthy debate on the Charleston County Medical Society's Resolution "that the Charleston County Medical Society urges that the South Carolina Medical Association divorce itself from active sponsorship of Blue Shield in South Carolina". The arguments that the Medical Association should not enjoin by endorsement of commercial ventures in the sale of life and liability insurance, that Blue Shield has escaped from its primary function of providing non-profit insurance for low income groups, that legislation will be passed to erect a consumer-dominated Board of Directors which will produce de facto separation of the Medical Association from Blue Shield, that the Medical Association seeks to divest itself of Blue Shield in order to obtain its assets for a split among its members, that the recent brouhaha about Companion Life & Alpine Agency has had damaging implications for the Medical Association and produces an ideal time for denying sponsorship of Blue Shield were carefully considered by the Committee. It is clear to the Committee that Blue Shield is the issue of the loins of the S. C. Medical Association and its paternity is an undeniable fact, that it is the only company in the medical care insurance field where the policy of the company can be subjected to possible modification by the medical profession, that the underwriting of a loss of 10-25% of the fees of the average participating physician, is testimony against the outcry against the callous, money-grubbing, blood-sucking public image of the medical profession in general and that the public generally would probably never completely understand the withdrawal of sponsorship and its lack of understanding would further

deteriorate public confidence in the medical profession.

From the consideration of the various factors, it is the judgment of the majority of the Committee that it would not be to the advantage of the South Carolina Medical Asso-tion to divorce itself from active sponsorship of Blue Shield.

The Resolution of the Colleton County Medical Society "that Blue Shield of South Carolina sever its relation with the Medicare Program at the end of this fiscal year" was referred to this Committee. The case for severance of its relation with Medicare was found by the Committee to be jejune and the Committee recommends disapproval of such a disassociation.

The portion of Dr. Hope's Report of Council that "Dr Halsted Stone, a member of the Committee to negotiate a fee service schedule with Blue Shield, reported that this committee had not adopted a final schedule and asked that this committee be continued" was discussed by the Committee. The Committee recommends that the committee be continued and be urged to bring its charge to a conclusion in all haste.

Respectfully submitted,
Louie B. Jenkins, Chairman
James S. Garner
Frank H. Stelling
Wendell H. Tiller
M. Tucker Laffitte, Jr.

*THE CHAIR:* Dr. Jenkins, thank you for this Report. The Chair will rule that this is a Committee Report, that any part of it can be taken up in the order that's most logical to resolve. We can take up more than one part at one time if we want to take together the related ones. I will recognize Dr. Tucker Weston. He would like to make a motion relative to this Committee Report.

*Dr. C. Tucker Weston, Columbia:* I'm Tucker Weston from the Columbia Medical Society.

In the desire to unite the medical profession of South Carolina and let us stand together allied in one common cause of helping the citizens of South Carolina in providing them with adequate and good medical care, I would like to make the following recommendation and motion. We have heard a great deal of discussion and talk. We have had months of searching scrutiny. We don't have all the answers as yet. The hearing was well attended on Monday afternoon. Everyone had the opportunity to speak and to appear and I see no need to divide our Association any further by having a repetition of a debate for the rest of the day. I would like to move that the following items be taken up in this order in the Report of the Blue Cross-Blue Shield Insurance Committee.

The first Resolutions were those introduced by the Columbia Medical Society and I move that Resolution #1, Resolution #2, Resolution #3, Resolution #6, Resolution #7, and the Resolution last presented about the Fee Schedule be the Resolutions considered in that order by this House of Delegates. At the conclusion of this, it is my intention to move that Resolution #4, Resolution #5 and the Resolution of the Charleston County Medical Society and the Resolution of the Colleton County Medical Society be placed on the table and that there be a called meeting of the House of Delegates after all the facts are assembled at a later date and we will consider taking these off the table if it should be desired. Mr. President, I move for the adoption of my Motion.

*THE CHAIR:* Dr. McIver, do you object to that motion on a parliamentary basis?

*Dr. Forde A. McIver (Parliamentarian):* I think that this motion is acceptable from a parliamentary point of view; however, it might be necessary to explain that this present motion does not table Nos. 4, 5, 8 and 9 but simply gives notice that this tabling motion will be entered later.

*THE CHAIR:* Thank you. I think we understood that Is there a second to Dr. Weston's motion?

(A doctor seconded the motion from the floor.)

**(To be continued)**




**Dr. Leonard W. Douglas** of Anderson was recently appointed by Governor West as a member of the State Committee for Technical Education from the Third Congressional District. **Dr. David W. Baxley** of North Charleston has been re-elected chairman of the Southeastern Industrial Health Conference. **Dr. Allen R. Slone** of Hartsville will serve as secretary-treasurer. Members of the faculty of the Medical University speaking at their recent meeting in Gatlinburg included **Drs. Raymond Rosenblum, R. L. Galphin, S. M. Sandifer, Richard T. Brock, Curtis P. Artz, John A. Moncrief, C. W. Miller** and **Richard H. Gadsden.**

**Dr. John L. Guy,** who has been practicing in Inman since 1964, has announced the opening of his practice in Abbeville. **Drs. Redden L. Parramore, Jr., A. Lawrence Lemel,** and **Robert Wilson, Jr.** announce the formation of Associates in Ear, Nose and Throat, P.A., in the Charleston Medical Building at 315 Calhoun Street in Charleston. **Dr. S. Elliott Puckette, Jr.** announces the opening of his office for the practice of Radiology at the Parkwood Professional Building, 1253 Savannah Highway, Charleston. **Dr. Albert D. Jenkins,** a pediatrician, will begin work in the two neighborhood clinics of a federal health project in McCormick County. **Dr. W. Paul Bennett** and **Dr. Harold A. Moore,** specializing in gynecology, have announced the relocation of their offices to 2719 Middleburg Drive, Columbia. Another Columbia gynecologist, **Dr. Ernest L. Wooten,** will relocate his office at 3018 McNaughton Drive.

The Florence Family YMCA Board of Directors for 1972 will include **Dr. Hunter R. Stokes** as president and **Dr. Julian P. Price** as a member of the board. **Dr. Charles H. Browne** was elected president of the Anderson County Medical Society. Other officers who will serve are **Dr. William M. Turner,** vice-president; **Dr. Charles R. Griffin,** secretary; and **Dr. Charles Bailes,** treasurer. **Dr. Paul B. Pritchard, Jr.** of Ware Shoals and **Dr. Waitus Tanner** of Columbia will serve as trustees of the South Carolina Baptist Hospital. **Dr. E. O. DeVore, Jr.** of Honea Path was named to the board of trustees of the Baptist Courier, the South Carolina Baptist state paper.

**Dr. George H. Bunch, Jr.,** a Columbia surgeon, has been named to the board of directors for Standard Savings and Loan Association. **Dr. J. H. Gressette** of Orangeburg has been elected Vice President of the American Bank & Trust. He has been a member of the bank's Board of Directors since 1957. **Dr. Vince Moseley** of Charleston has been elected to the Palmer College Board of Trustees. **Dr. Kenneth R. Couch** has been named temporary chairman of the Spartanburg City-County Alcohol and Drug Abuse Commission.

A scientific paper entitled "Palliation of Tetralogy of Fallot with Propranolol" by **Drs. Luther C. Williams, Hazel M. Webb,** and **Arno R. Hohn** was presented recently by Dr. Williams before the Section on Cardiology of the American Academy of Pediatrics in Chicago. **Dr. Edward M. Kasper** of Marion was awarded Fellowship in the American College of Surgeons in a cap-and-gown ceremony during the Clinical Congress in Atlantic City on October 21.



## THE SOUTH CAROLINA DEPARTMENT OF MENTAL HEALTH

William S. Hall, M.D.
State Commissioner of Mental Health

The South Carolina Department of Mental Health has moved rapidly into the alcohol and drug addiction treatment arena with the opening in late November of a special training-treatment project for 56 patients in a new unit at Crafts-Farrow State Hospital. But, coupled with the immediate demand for bed space for patients, there remains a problem among professionals who have not understood the admissions procedure to be followed at the addictions treatment facility.

Prior to the opening of the unit, all physicians in South Carolina were sent a letter explaining the admission policy, as set by law. In the event, that letter may have been misplaeed, the procedure is repeated:

ADMISSION PROCEDURES (Article 5.1 S. C. Code of Laws, 1962 and 1969 Cumulative Supplement)

*INVOLUNTARY*

1. Patient may be detoxified in a local general general hospital.
2. South Carolina Department of Mental Health Form "Application for Admission of the Mentally Ill or Addicted" must be completed and signed by two licensed physieians, or a statement made on the application form by the applicant that the individual has refused to submit to an examination by two physicians. The head of the treatment facility may admit sueh an individual if he is found incapacitated.
   The affidavit and certificate of physieians shall be filed with a court in the county where the individual resides.
3. Contact the Center, at 754-7860, Columbia, S. C., to determine available bed space and/or when the patient may be accepted.

*JUDICIAL*

Proceedings for the judicial hospitalization of an individual may be commenced by any person by filing an affidavit with a court in the county where the individual is a resident. The application shall be accompanied by a eertificate of two licensed physicians stating that they have examined the individual and are of the opinion that he is an addict subject to judicial hospitalization, or a statement in the affidavit by the applicant that the individual has refused to submit to an examination by two licensed physicians. The certifieate must be signed within three days prior to filing the application.

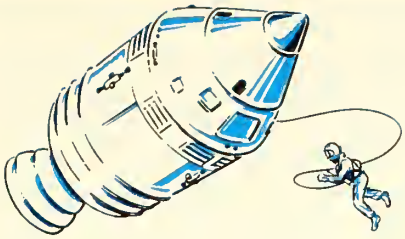
Step 3 listed under Involuntary is applicable to Judicial Commitment also.

*VOLUNTARY*

1. An individual must be 18 years old or older; those under 18 years of age must have parental consent.
2. The Center must be contacted to determine available bed space before the patient arrives. The patient will complete the Voluntary Commitment Form upon arrival.

Transportation to and from the Center must be provided by the patient's family, guardian or the court. The Center is located at Crafts-Farrow State Hospital, Building No. 6. Admission hours are between 8:30 a.m. and 1:00 p.m. Monday through Friday.

Followup aftercare services are required for



*Man in space, now fait accompli, re-emphasizes the importance of Uro-Phosphate therapy. Research into the effect of space travel on the astronaut reveals that weightlessness causes loss of bone calcium. As the bones are required to bear less and less of the weight of the body they lose calcium, increasing the calcium content of the urine. When physical activity is reduced, the acidity of the urine should be adjusted to keep increased calcium in solution . . . . a prophylaxis to prevent kidney or bladder calculi.*

# Uro-Phosphate®

*NOW A SUGAR-COATED TABLET*

*Each tablet contains:* METHENAMINE, *300 mg.;* SODIUM ACID PHOSPHATE, *500 mg.*

Uro-Phosphate gives comfort and protection when inactivity causes discomfort in the urinary function. It keeps calcium in solution, preventing calculi; it maintains clear, acid, sterile urine; it encourages complete voiding and lessens frequency when residual urine is present.

Uro-Phosphate contains sodium acid phosphate, a natural urinary acidifier. This component is fortified with methenamine which is inert until it reaches the acid urinary bladder. In this environment it releases a mild antiseptic keeping the urine sterile.

Uro-Phosphate is safe for continuous use. There are no contra-indications other than acidosis. It can be given in sufficient amount to keep the urine clear, acid and sterile. A heavy sugar coating protects its potency.

**Dosage:**

*For protection of the inactive patient 1 or 2 tablets every 4 to 6 hours is usually sufficient to keep the urine clear, acid and sterile.*

*2 tablets on retiring will keep residual urine acid and sterile, contributing to comfort and rest.*

*A clinical supply will be sent to physicians and hospitals on request.*

WILLIAM P. POYTHRESS & COMPANY, INC., RICHMOND, VIRGINIA 23217

*Manufacturers of Ethical Pharmaceuticals*

# IN ASTHMA
# IN EMPHYSEMA



*optional therapy*

# THE mudranes®

All Mudranes are bronchodilator-mucolytic in action, and are indicated for symptomatic relief of bronchial asthma, emphysema, bronchiectasis and chronic bronchitis. **MUDRANE tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **Iodide side-effects:** May cause nausea. Very long use may cause goiter. Discontinue if symptoms of iodism develop. **Iodide contraindications:** Tuberculosis; pregnancy (to protect the fetus against possible depression of thyroid activity). **MUDRANE-2 tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline. **Iodide side-effects and contraindications are listed above. MUDRANE GG tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **MUDRANE GG-2 tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions:** Those for aminophylline. **MUDRANE GG Elixir.** Each teaspoonful (5 cc) contains 26 mg. glyceryl guaiacolate; 20 mg. theophylline; 5.4 mg. phenobarbital (Warning: may be habit-forming); 4 mg. ephedrine HCl. **Dosage:** Children, 1 cc for each 10 lbs. of body weight; one teaspoonful (5 cc) for a 50 lb. child. Dose may be repeated 3 or 4 times a day. Adult, one tablespoonful, 4 times daily. All doses should be followed with ½ to full glass of water. **Precautions:** See those listed above for Mudrane GG tablets.

**MUDRANE—original formula**
*First choice*

**MUDRANE-2**
*When ephedrine is too exciting or is contraindicated*

**MUDRANE GG**
*During pregnancy or when K.I. is contraindicated or not tolerated*

**MUDRANE GG-2**
*A counterpart for Mudrane-2*

**MUDRANE GG ELIXIR**
*For pediatric use or where liquids are preferred*

*Clinical specimens available to physicians.*

WILLIAM P. POYTHRESS & COMPANY, INC., RICHMOND, VIRGINIA 23217

*Manufacturers of Ethical Pharmaceuticals*

a period of *one* year for all involuntary patients, and are highly recommended for the voluntary patients.

To date the Department and facility personnel have received wonderful cooperation from physicians, from our courts, and from the public. As is true in any new program, routines still have some rough edges to smooth out, but indications are that we have an excellent program in operation and we have reason to be optimistic about the results of treatment.

We feel that the position of the Department that there is an urgent need for this program has been fully substantiated based on the number of calls and inquiries we have received and on the immediate response on the part of intended patients.

Each day of operation makes it even more evident that there should be no more delays and that we should move ahead with the planned construction of the proposed 150-bed alcohol and drug addictions center, which still awaits approval from the State Budget and Control Board.

---

## NEUROPATHOLOGY REVIEW COURSE

February 18-20, 1972
*Room 640, Dental College
Basic Science Building
Medical University of S. C.
Charleston, S. C.

No pre-registration is necessary but the course fee will be $30.00 for practicing physicians and $5.00 for resident physicians and interns. No fee will be required for medical students. A 100-150 page lecture summary will be available for purchase on an optional basis, as well as copies of photographs from selected material. All of the course fees will go into the B. F. Vaughan Memorial Neuropathology Educational Fund. If you decide to register early by mail, please make your check out to the VAUGHAN NEUROPATHOLOGY FUND.

The course faculty will consist of

J. Douglas Balentine, M. D. — Associate Professor of Pathology (Neuropathology) M.U.S.C.

W. Donald Hiers, M. D. — Associate Professor of Neurology and Pathology (Nenropathology), Acting Chairman of the Department of Neurology M.U.S.C.

Charles J. Geilfuss, Jr. — Clinical Associate Professor of Radiology M.U.S.C.

Guest Neuropathologist, to be announced.




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(meprobamate)
400 mg tablets

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## HEALTH CARE SYSTEMS DESIGN TRAINING PROGRAM

The National Center for Health Services Research and Development of the Department of Health, Education, and Welfare has recently awarded the Department of Industrial Engineering at the University of Missouri – Columbia a training grant to support a Ph.D. program in Health Care Systems Design. This grant provides additional resources to support the Department's extensive current commitment in this area. A vital feature of the program is the unique collaboration between the University School of Medicine and the College of Engineering. The program emphasizes industrial engineering analysis tools, as well as medical diagnosis and treatment practice, health care organization, and methods of health care systems evaluation. These areas of emphasis are applied in a series of design experiences. The program culminates in an original research dissertation.

A limited number of openings for admission and financial support are available to highly qualified persons with medical, paramedical, engineering, and science backgrounds, who have a professional commitment to research, design, or management of health care systems. Persons with a strong quantitative background who are interested in the program may write for more information to H. Allan Knappenberger, Ph.D.; Professor and Director of Graduate Studies; Department of Industrial Engineering; University of Missouri; Columbia, MO 65201.

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## MEETINGS

**Maxillofacial Trauma.** March 13-16, 1972. Department of Otolaryngology and Maxillofacial Surgery, University of Cincinnati Medical Center, Cincinnati, Ohio. Sponsored by American Academy of Facial Plastic and Reconstructive Surgery, Inc. Directors are Sabino T. Baluyot, M. D., and Gabriel Marshak, M. D. A practical workshop in the treatment of maxillofacial fractures, including dissection of laboratory specimens.

Tuition: $400

Registrar:
Miss Debby Adkins

Office of CONMED, Room 114
College of Medicine
University of Cincinnati
Cincinnati, Ohio 45219

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**The University of Miami Law Center and School of Medicine** are proud to announce the forthcoming MEDICAL MALPRACTICE, A LEGAL COURSE FOR DOCTORS, which will take place March 1-4, 1972 at the Americana Hotel, Bal Harbour, Florida. The purpose of the seminar is to give to doctors and hospital administrators an in-depth introduction to their legal rights and duties in relation to their patients. Taught completely by lawyers, it will be a non-adversary, factual, legal and practical presentation for the purpose of education.

IV Medical/Legal Institute
University of Miami Law Center
P. O. Box 8087
Coral Gables, Florida 33124

**The American College of Cardiology** (ACC), the national medical society for specialists and research scientists in cardiovascular diseases, will hold its 21st Annual Scientific Session in Chicago, Ill., March 1-5, 1972. The headquarters hotel will be the Conrad Hilton.

For information, write:
William D. Nelligan, Executive Director
American College of Cardiology
9650 Rockville Pike
Bethesda, Maryland 20014

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**"Modern Concepts in Acute and Chronic Cardiorespiratory Care—Newborn, Adult"**, a four-day postgraduate course will be presented in Steamboat Springs, Colorado, February 28-March 2, 1972. This program has been developed jointly by the American College of Chest Physicians; Pediatric


Tired of solo Pediatrics?
Bored with too much free time in your
large group? Just beginning practice?
Looking for a change?
Join a board pediatrician in a twice
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**SYMPOSIUM: PRESCRIBING EXERCISE FOR THE MAINTENANCE OF CARDIOVASCULAR HEALTH**

DATES: Feb. 11, 12, 1972
Feb. 11 9:00 a.m. - 5:30 p.m.
Feb. 12 9:00 a.m. - 3:45 p.m.

FEE: $50.00 Medical Doctors
$15.00 Interns in Residence

PAYMENT OF FEES: May pre-register by paying fee in full

PLACE: University of North Carolina at Charlotte

HOUSING: (Downtowner Motor Inn) North-South Basketball these evenings at nearby Coliseum
(N. C. State, Clemson, Georgia and University of North Carolina)

Name_____
Address_____
Street or Box No. City State Zip Code
Payment is enclosed ( ) yes ( ) no

Return this form to:
Institute for Urban Studies & Community Service
UNCC, UNCC Station
Charlotte, N. C. 28213

Make checks payable to: Institute for Urban Studies & Community Service

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Cardiopulmonary Department, University of Colorado Medical Center; and the Cystic Fibrosis Foundation. Course directors: Ernest K. Cotton, M.D. and Margo Pinney, PHN.

Registration fee: $100, ACCP members; $125, non-members, $50, residents. For further information contact the Department of Continuing Education, American College of Chest Physicians, 112 East Chestnut Street, Chicago, Illinois 60611 (312)787-4933.

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**The American College of Sports Medicine** has announced the tentative program for its 19th Annual Meeting to be held May 1-3, 1972, in Philadelphia, Pennsylvania.

For Additional Information Contact:
Donald E. Herrmann, Exec. Secretary
American College of Sports Medicine
1440 Monroe Street
Madison, Wisconsin 53706

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**The Georgia and South Carolina Societies of Anesthesiologists** will present a conference on Problems in Pediatric Anesthesiology on Saturday, February 26 and Sunday, February 27, at the Medical College of Georgia Auditorium in Augusta, Georgia.

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**Workshop in Advanced Rhinoplasty.** Feb. 27 — March 3, 1972. Department of Otolaryngology, Baylor University College of Medicine, Houston Texas. Sponsored by American Academy of Facial Plastic and Reconstructive Surgery, Inc. Workshop is for experienced surgeons who already perform this procedure but seek additional and more exhaustive instruction at advanced level. Priority given to surgeons actively engaged in teaching. Registration fee: $500.

Contact:
Dr. William K. Wright, Director
Suite 508 Hermann Professional Building
Texas Medical Center
Houston, Texas 77025

# *WILLINGWAY*

**offers the touch and the time. . . .**
**and the answers for problems of alcoholism**
**and other drug dependency conditions. . . .**

And in this place one will find a new facility, located in a terrace of eleven acres of beautiful south Georgia woodland. There, Willingway is set within a single-story, multi-level hospital, designed with the residential feeling, with 26 private rooms and baths, arranged in an intimate home-like atmosphere.

All living units are individually decorated and furnished with wall to wall carpeting.

Closely connected to the living units are comfortable lounges with a coffee and snack bar open around the clock where informal group therapy is in constant motion.

Willingway is dedicated to the home-like atmosphere. This dedication is enhanced with a large day room; inside and outside patios; a dining room where home cooked meals are served; a library and conference rooms for reading and the solitude of quiet moments.

Within the world of Willingway, there is purpose. And for that purpose the clinical arrangement of Willingway offers the modern facilities and techniques available for withdrawal and rehabilitation, thus providing a fresh start away from the pressures.

Willingway is a whole new concept. Its program has attracted nationwide attention from many professional societies. It, too, has attracted people who seek the answer that Willingway offers for the problem of alcoholism or drug addiction. There are a few simple regulations which help form this new concept. Anyone requesting admittance to Willingway must agree to a few easy to follow requirements, i.e., remain for at least 28 days with no visitors, no telephone calls, no automobiles, or other outside distractions.

Willingway would like to hear from you if you are interested in additional information on the program or if you need help.

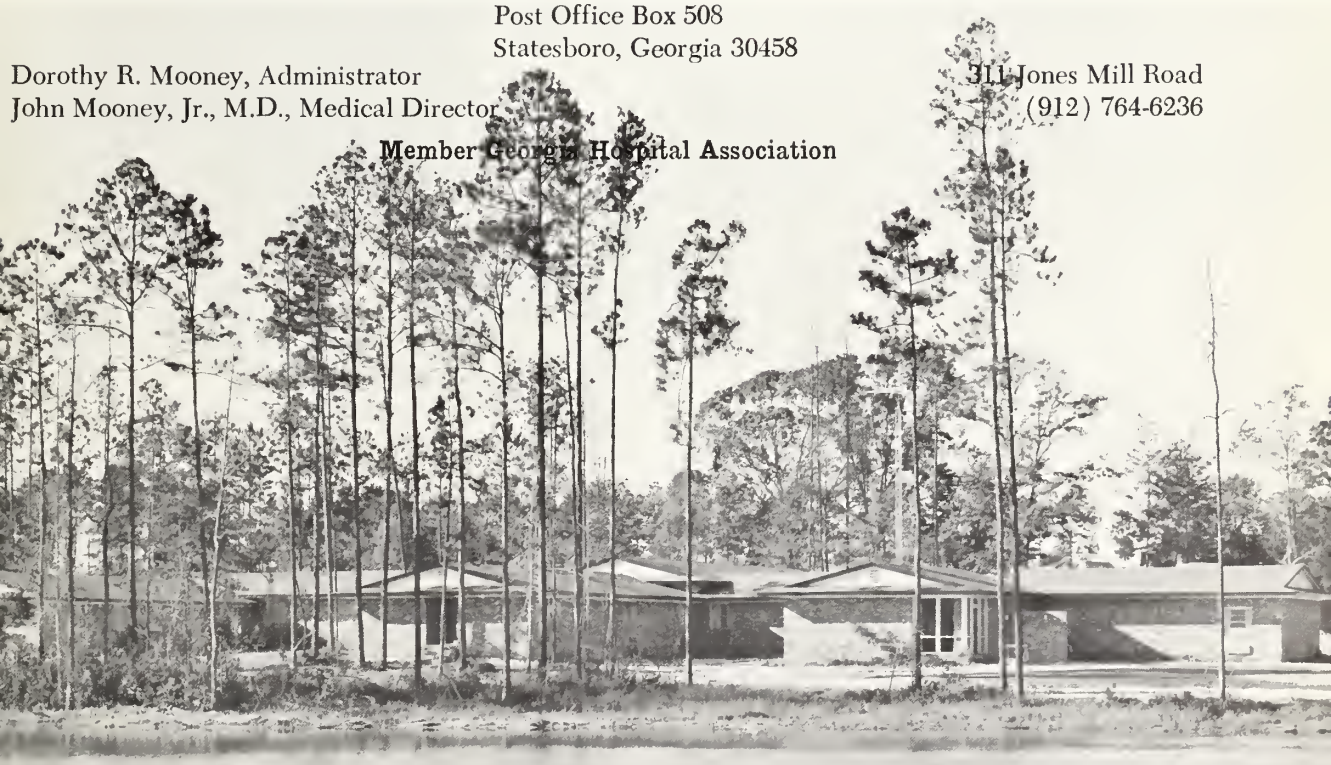
For further information write:

WILLINGWAY
Post Office Box 508
Statesboro, Georgia 30458

Dorothy R. Mooney, Administrator
John Mooney, Jr., M.D., Medical Director

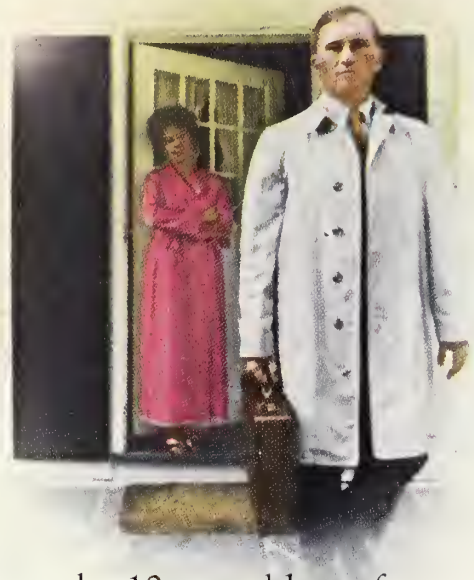
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**"A Way of Recovery through Willingness"**

# When he goes back to work, will his old tensions go back with him



When it's mandatory to keep the post-coronary patient calm, consider Valium® (diazepam).

Although he's promised to take it easy back on the job, you know he's going back to the same stressful circumstances that may have contributed to his hospitalization. Your prescription for Valium can calm him. Lessened anxiety and tension can help in decelerating his former pace. During the period of readjustment Valium helps quiet undue anxiety.

For moderate states of psychic tension, 5-mg or 2-mg Valium tablets *t.i.d.* or *q.i.d.* can usually provide reliable relief. For severe tension/anxiety states, the 10-mg tablets often produce desired results.

The most commonly reported side effects are drowsiness, ataxia, and fatigue. Until individual response is determined, caution patient against driving or operating dangerous machinery.

## Valium® (diazepam)

## For the tense cardiac patient who must be kept calm

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose™ packages of 1000.

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# The Journal of The SOUTH CAROLINA Medical Association


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CAROTID ARTERY SURGERY

CLINICOPATHOLOGICAL CONFERENCE

ABDOMINOPERINEAL RESECTION

MINUTES OF HOUSE OF DELEGATES, PART III


VOLUME 68 FEBRUARY, 1972 NUMBER 2



**One of the familiar line of Cordran® products**

flurandrenolide




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Lilly

Eli Lilly and Company
Indianapolis, Indiana 46206

*Additional information available to the profession on request.*

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** In adults, urinary tract infections complicated by pain (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella-Aerobacter, Staphylococcus aureus, Proteus mirabilis,* and, less frequently, *Proteus vulgaris*) in the absence of obstructive uropathy or foreign bodies. *Important Note:* Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response. Add aminobenzoic acid to culture media for patients already taking sulfonamides. Increasing frequency of resistant organisms currently is a limitation of the usefulness of antibacterial agents. Blood levels should be measured in patients receiving sulfonamides for serious infections, since there may be wide variations with identical doses; 12 to 15 mg/100 ml is considered optimal for serious infections; 20 mg/100 ml should be the maximum total sulfonamide level, as adverse reactions occur more frequently above this level.

**Contraindications:** Children below age 12; sulfonamide hypersensitivity; pregnancy at term and during nursing period. Contraindicated in glomerulonephritis, severe hepatitis, uremia, and pyelonephritis of pregnancy with gastrointestinal disturbances, because of phenazopyridine HCl component.

**Warnings:** Safe use in pregnancy has not been established, and teratogenicity potential has not been thoroughly investigated. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported; clinical signs such as sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. Complete blood counts and urinalysis with careful microscopic examination should be performed frequently during sulfonamide therapy.

**Precautions:** Use with caution in patients with impaired renal or hepatic function, severe allergy, bronchial asthma and in glucose-6-phosphate dehydrogenase-deficient individuals. In the latter, hemolysis, a frequently dose-related reaction, may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias:* agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia; *allergic reactions:* erythema multiforme (Stevens-Johnson syndrome), skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis; *gastrointestinal reactions:* nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis; *C.N.S. reactions:* headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia; and *miscellaneous reactions:* drug fever, chills, toxic nephrosis with oliguria and anuria, polyarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide and thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

**Dosage:** Usual adult dosage for acute, painful phase of urinary tract infection is 4 tablets initially, then 2 tablets morning and evening. If pain persists beyond seven days, causes other than infection should be sought. After relief has been obtained, continued treatment with Gantanol (sulfamethoxazole) may be considered.

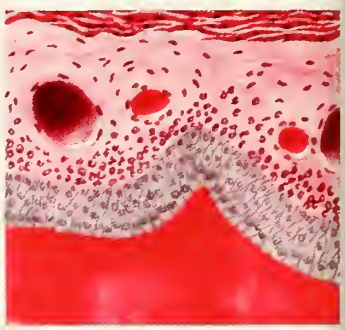
*NOTE:* Patients should be told that the orange-red dye (phenazopyridine HCl) will color the urine soon after ingestion.

**How Supplied:** Tablets, each containing 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl, bottles of 100 and 500.

# Azo

**Each tablet contains 100 mg phenazopyridine H**

# for dramatic relief from symptoms within minutes



Artist's rendition of inflamed mucosa of the bladder wall



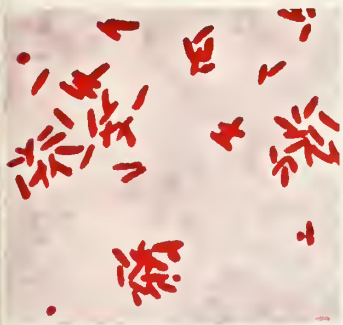
Artist's rendition of bladder with acute cystitis

# Gantanol®

0.5 Gm sulfamethoxazole.

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BOSTON
7 MAR 1972

# for effective antibacterial action within hours



Artist's rendition of *E. coli*



## Rapid relief of discomfort

The patient needs prompt relief of urinary bladder pain and the physician needs to initiate early antibacterial action to fight the infection. This is where the basic therapy of dual-action Azo Gantanol® can help... the analgesic action of Azo (phenazopyridine HCl) for prompt relief from bladder pain and the effective action of Gantanol® (sulfamethoxazole) to control the bladder infection.

## Antibacterial blood/urine levels in from 2 to 3 hours

With the initial 2-Gm dose, the analgesic action of the Azo component starts immediately to relieve the symptoms associated with an infected and inflamed bladder. In from 2 to 3 hours, as effective antibacterial blood and urine levels are reached, the Gantanol action begins to control the bacteria most often implicated in acute infections of the bladder . . . susceptible *E. coli* as well as susceptible strains of *Klebsiella-Aerobacter, Staph. aureus, Proteus mirabilis,* and, less frequently, *P. vulgaris*. The usual precautions in sulfonamide therapy, including maintenance of adequate fluid intake, should be observed. The most common side effects are nausea, vomiting and diarrhea.

## 12 hours of therapy with every dose

Subsequent *b.i.d.* doses of 1 Gm, morning and evening, maintain effective antibacterial coverage on a round-the-clock basis. With every dose, Azo Gantanol helps relieve the symptoms of cystitis while it fights the infection.

## In acute painful nonobstructed cystitis

# Azo Gantanol®

Each tablet contains 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl.

## basic therapy

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Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

# Arthur los



**A single-dose, non-staining anthelmint**

# is pinworms...



with just one non-staining dose of Antiminth (pyrantel pamoate) Oral Suspension.

**Highly effective.** Active against pinworm...and roundworm.

**Non-staining.** Doesn't stain teeth or oral mucosa on ingestion. Doesn't stain stools, clothing or linen.

**Simple dosage.** Single-dose regimen: 1 cc. per 10 lbs. of body weight (1 tsp. per 50 lbs.).

**Well-tolerated.** Based on pre-introductory studies.

**Pleasant-tasting.** Easy-to-take, caramel-flavored oral suspension.

**Economical.** One prescription for the entire family.

**Antiminth (pyrantel pamoate) Oral Suspension**

**Actions.** Antiminth (pyrantel pamoate) has demonstrated anthelmintic activity against *Enterobius vermicularis* (pinworm) and *Ascaris lumbricoides* (roundworm). The anthelmintic action is probably due to the neuromuscular blocking property of the drug.

Antiminth is partially absorbed after an oral dose. Plasma levels of unchanged drug are low. Peak levels (0.05-0.13 μg/ml) are reached in 1-3 hours. Quantities greater than 50% of administered drug are excreted in feces as the unchanged form, whereas only 7% or less of the dose is found in urine as the unchanged form of the drug and its metabolites.

**Indications.** For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

**Warnings.** *Usage in Pregnancy:* Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

**Precautions.** Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with pre-existing liver dysfunction.

**Adverse Reactions.** The most frequently encountered adverse reactions are related to the gastrointestinal system.

Gastrointestinal and hepatic reactions: anorexia, nausea, vomiting, gastralgia, abdominal cramps, diarrhea and tenesmus, transient elevation of SGOT.

CNS reactions: headache, dizziness, drowsiness, and insomnia.

Skin reactions: rashes.

**Dosage and Administration.** *Children and Adults:* Antiminth Oral Suspension (50 mg. of pyrantel base/ml.) should be administered in a single dose of 11 mg of pyrantel base per kg. of body weight (or 5 mg./lb.); maximum total dose 1 gram. This corresponds to a simplified dosage regimen of 1 cc. of Antiminth per 10 lbs. of body weight. (One teaspoonful = 5 cc.)

Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day; and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices. Because of limited data on repeated doses, no recommendations can be made.

**How Supplied.** Antiminth is available as a pleasant tasting caramel-flavored suspension which contains the equivalent of 50 mg pyrantel base per ml., supplied in 60 cc. bottles.

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*ntraindications:* Children 14 years or less; senile ients; history or symptoms of G.I. inflammation or eration including severe, recurrent or persistent spepsia; history or presence of drug allergy; blood scrasias; renal, hepatic or cardiac dysfunction; pertension; thyroid disease; systemic edema; matitis and salivary gland enlargement due to the g; polymyalgia rheumatica and temporal arteritis; ients receiving other potent chemotherapeutic ents, or long-term anticoagulant therapy.

*rnings:* Age, weight, dosage, duration of therapy, stence of concomitant diseases, and concurrent ent chemotherapy affect incidence of toxic reac- ns. Carefully instruct and observe the individual ient, especially the aging (forty years and over) o have increased susceptibility to the toxicity of the g. Use lowest effective dosage. Weigh initially predictable benefits against potential risk of severe, en fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

*Precautions:* The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

*Adverse Reactions:* This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angiitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement.

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**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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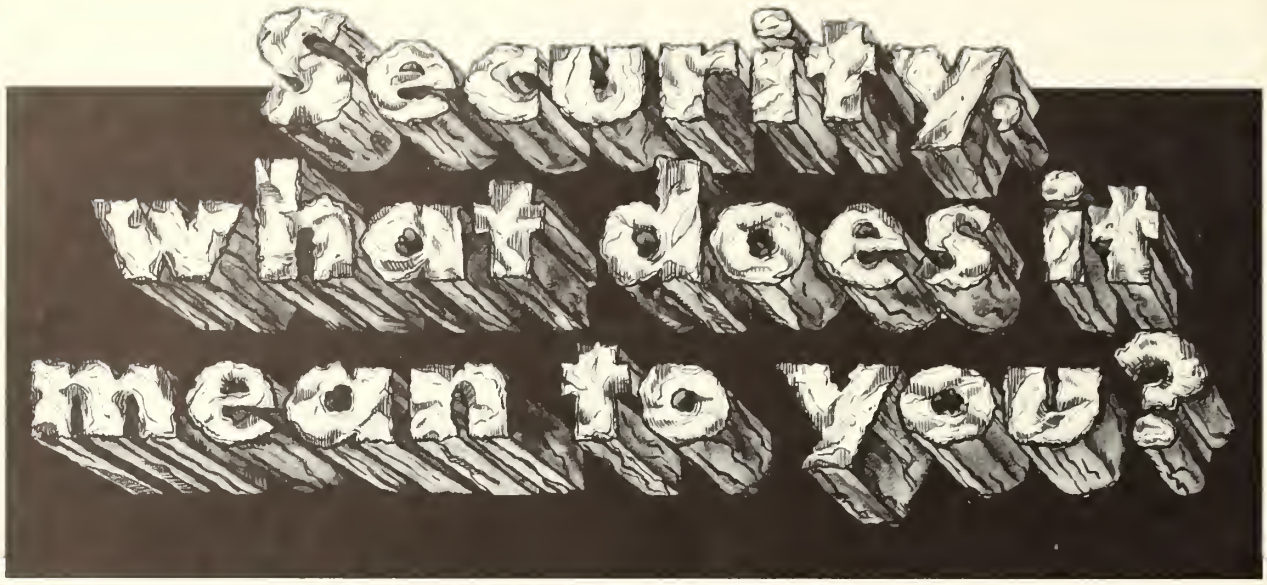
**Length**—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

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**Illustrations**—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

**References**—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, Arch Int Med 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard—e.g. mg, ml, Gm.

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Caution, very close observation, and careful adjustment dose are necessary when: insulin is withdrawn during the tri period in order to avoid ketosis, acidosis, and coma; thiazic diuretics are administered which may result in aggravation diabetic state and increased tolbutamide requirement, temp rary loss of control, or even secondary failure; treating patien with impaired hepatic and/or renal function and debilitated, ma nourished, or semistarved patients in order to avoid severe hyp glycemia which may require corrective therapy over sever days; and treating patients with severe trauma, infection, or su gical procedures where temporary return to insulin or additic of insulin may be necessary. Response to tolbutamide is dimi ished in patients receiving therapy with beta blocking agent

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(tolbutamide, Upjohn)

daily, and during the first month report at least once weekly physical examination and definitive evaluation. After a month, minations are recommended monthly or as indicated. Appearance of ketonuria, increase in glycosuria, unsatisfactory ering or persistent elevation of blood sugar, or failure to ain and hold clinical improvement indicate nonresponsiveness to Orinase (tolbutamide). Orinase does not obviate need for ntaining standard diet regulation. Uncooperative patients uld be considered unsuitable for therapy. Prescriptions should efilled only on specific instruction of physician. In treating l asymptomatic diabetic patients with abnormal glucose rance, glucose tolerance tests should be obtained at three- ix-month intervals. Orinase is not an oral insulin or a substi- for insulin and must not be used as sole therapy in juvenile betes or in diabetes complicated by acidosis or coma where lin is indispensable.

phenformin is prescribed in combination with Orinase, appriate package literature should be consulted.

**dverse Reactions:** Severe hypoglycemia, though uncommon, occur and may mimic acute neurologic disorders such as ebral thrombosis. Certain factors such as hepatic and renal ease, malnutrition, advanced age, alcohol ingestion, and enal and pituitary insufficiency may predispose to hypoglyemia and certain drugs such as insulin, phenformin, sulfonaes, oxyphenbutazone, salicylates, probenecid, monamine dase inhibitors, phenylbutazone, bishydroxycoumarin, and nyramidol may prolong or enhance the action of Orinase and ease risk of hypoglycemia. Orinase long-term therapy has n reported to cause reduction in RAI uptake without producing clinical hypothyroidism or thyroid enlargement and at high doses is mildly goitrogenic in animals. Photosensitivity reactions, disulfiram-like reactions after alcohol ingestion, and false-positive tests for urine albumin have been reported.

Although usually not serious, gastrointestinal disturbances (nausea, epigastric fullness, and heartburn) and headache appear to be dose related and frequently disappear with reduction of dose or administration with meals. Allergic skin reactions (pruritus, erythema, urticaria, and morbilliform or maculopapular eruptions) are transient, usually not serious, and frequently disappear with continued administration. Orinase should be discontinued if skin reactions persist. Recent reports indicate that long-term use of Orinase has no appreciable effect on body weight.

Orinase appears to be remarkably free from gross clinical toxicity: crystalluria or other renal abnormalities have not been observed; incidence of liver dysfunction is remarkably low and jaundice has been rare and cleared readily on discontinuation of drug (carcinoma of the pancreas or other biliary obstruction should be ruled out in persistent jaundice); leukopenia; agranulocytosis; thrombocytopenia; hemolytic anemia; aplastic anemia; pancytopenia; and hepatic porphyria and porphyria cutanea tarda have been reported.

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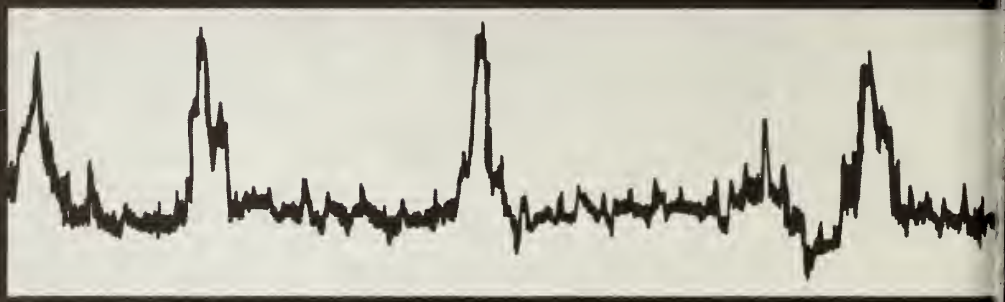
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# An intestinal autobiography of rage, contentment and horror*

"Feeling unfairly taxed by the government (Internal Revenue Service) and not given enough attention by A.U.O. [an experimenter to whom the subject became very attached], he became overtly critical and accusatory. He shouted, raged, and threatened to quit."*



"The motility that day was quiet. This type of recording is seen regularly when he is relaxed and contented and the laboratory seems peaceful."*



He was overwhelmed by "paralyzing horror" when told he would need a partial laryngectomy for removal of an early carcinoma; "...the activity of the ileum virtually ceased for over a five-minute period...."*



Background

*Data presented here derive from a 13-year ongoing study by Henry Harrison Sadler, M.D., and Aline Underhill Orten, Ph.D., at Wayne State University. Their findings, which demonstrate a correlation between the emotional state of a human subject and the motility of an isolated segment of his ileum, were published in the April, 1968, *American Journal of Psychiatry*, volume 124, page 1375.

The subject is a 56-year-old man with a 40-c Thiry loop of ileum created as a result of emergency surgery. A person of modest attainment and simple tastes, the subject depends on the investigators as he might hi own family. His full-time job is as a "human laboratory," and throughout the 13-year pe of the study, he has taken great personal pr in his own participation.

## A story charged with emotion

The graphs on the facing page are intestinal motility readings on a human subject experiencing the emotions of rage, contentment and horror (see "Background" below left). This "intestinal autobiography" dramatizes the point that certain emotions correlate with specific patterns of G.I. motility.

## The visceral clutch and functional G.I. disorders

The gut response to stress has been amply demonstrated in many functional G.I. disorders. Nervous diarrhea and irritable colon syndrome, for example, are disorders associated with abnormal G.I. motility. And these disorders are commonest among patients sensitive to life-stress situations productive of conflict and excessive anxiety.

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**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances, syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

## In functional G.I. disorders, adjunctive

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# Pre-Sate® (chlorphentermine hydrochloride)

**Caution:** Federal law prohibits dispensing without prescription.

## Indications

Pre-Sate (chlorphentermine hydrochloride) is indicated in exogenous obesity, as a short term (i.e. several weeks) adjunct in a regimen of weight reduction based upon caloric restriction.

## Contraindications

Glaucoma, hyperthyroidism, pheochromocytoma, hypersensitivity to sympathomimetic amines, and agitated states. Pre-Sate (chlorphentermine hydrochloride) is also contraindicated in patients with a history of drug abuse or symptomatic cardiovascular disease of the following types: advanced arteriosclerosis, severe coronary artery disease, moderate to severe hypertension, or cardiac conduction abnormalities with danger of arrhythmias. The drug is also contraindicated during or within 14 days following administration of monamine oxidase inhibitors, since hypertensive crises may result.

## Warnings

When weight loss is unsatisfactory the recommended dosage should not be increased in an attempt to obtain increased anorexigenic effect; discontinue the drug. Tolerance to the anorectic effect may develop. Drowsiness or stimulation may occur and may impair ability to engage in potentially hazardous activities such as operating machinery, driving a motor vehicle, or performing tasks requiring precision work or critical judgment. Therefore, such patients should be cautioned accordingly. Caution must be exercised if Pre-Sate (chlorphentermine hydrochloride) is used concomitantly with other central nervous system stimulants. There have been reports of pulmonary hypertension in patients who received related drugs.

**Drug Dependence** Drugs of this type have a potential for abuse. Patients have been known to increase the intake of drugs of this type to many times the dosages recommended. In long-term controlled studies with the high dosages of Pre-Sate, abrupt cessation did not result in symptoms of withdrawal.

**Usage In Pregnancy** The safety of Pre-Sate (chlorphentermine hydrochloride) in human pregnancy has not yet been clearly established. The use of anorectic agents by women who are or who may become pregnant, and especially those in the first trimester of pregnancy, requires that the potential benefit be weighed against the possible hazard to mother and child. Use of the drug during lactation is not recommended. Mammalian reproductive and teratogenic studies with high multiples of the human dose have been negative.

**Usage In Children** Not recommended for use in children under 12 years of age.

## Precautions

In patients with diabetes mellitus there may be alteration of insulin requirements due to dietary restrictions and weight loss. Pre-Sate (chlorphentermine hydrochloride) should be used with caution when obesity complicates the management of patients with mild to moderate cardiovascular disease or diabetes mellitus, and only when dietary restriction alone has been unsuccessful in achieving desired weight reduction. In prescribing this drug for obese patients in whom it is undesirable to introduce CNS stimulation or pressor effect, the physician should be alert to the individual who may be overly sensitive to this drug. Psychologic disturbances have been reported in patients who concomitantly receive an anorectic agent and a restrictive dietary regimen.

## Adverse Reactions

**Central Nervous System:** When CNS side effects occur, they are most often manifested as drowsiness or sedation or overstimulation and restlessness. Insomnia, dizziness, headache, euphoria, dysphoria, and tremor may also occur. Psychotic episodes, although rare, have been noted even at recommended doses. **Cardiovascular:** tachycardia, palpitation, elevation of blood pressure. **Gastrointestinal:** nausea and vomiting, diarrhea, unpleasant taste, constipation. **Endocrine:** changes in libido, impotence. **Autonomic:** dryness of mouth, sweating, mydriasis. **Allergic:** urticaria. **Genitourinary:** diuresis and, rarely, difficulty in initiating micturition. **Others:** Paresthesias, sural spasms.

## Dosage and Administration

The recommended adult daily dose of Pre-Sate (chlorphentermine hydrochloride) is one tablet (equivalent to 65 mg chlorphentermine base) taken after the first meal of the day. Use in children under 12 not recommended.

## Overdosage

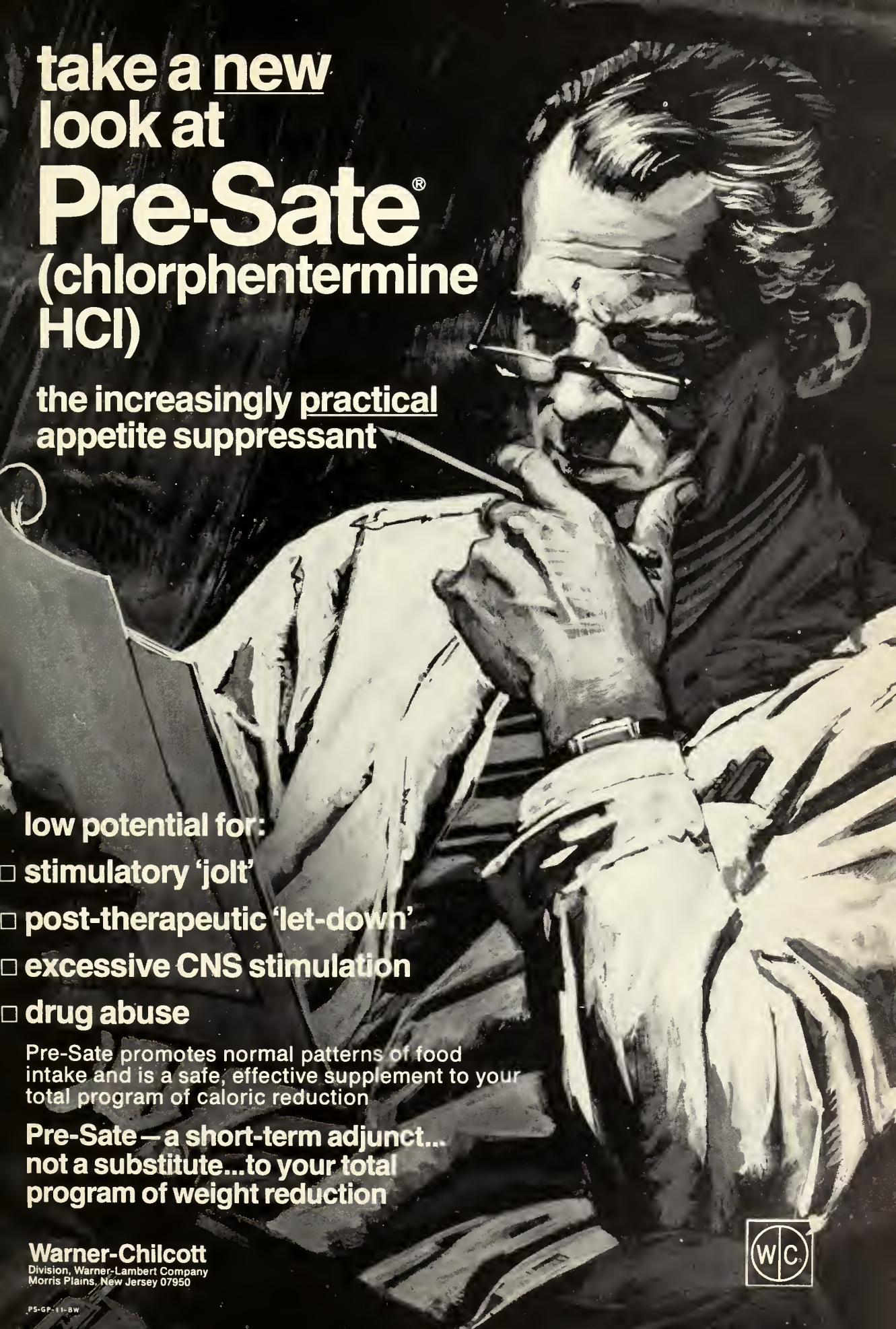
**Manifestations:** Restlessness, confusion, assaultiveness, hallucinations, panic states, and hyperpyrexia may be manifestations of acute intoxication with anorectic agents. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension, or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Fatal poisoning usually terminates in convulsions and coma.

**Management:** Management of acute intoxication with sympathomimetic amines is largely symptomatic and supportive and often includes sedation with a barbiturate. If hypertension is marked, the use of a nitrate or rapidly acting alpha-receptor blocking agent should be considered. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendations in this regard.

## How Supplied

Each Pre-Sate (chlorphentermine hydrochloride) tablet contains the equivalent of 65 mg chlorphentermine base; bottles of 100 and 1000 tablets.

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# When you select this familiar antibiotic for IV infusion you have available a broad dosage range that hospitalized patients may need.

Intravenous Lincocin (lincomycin hydrochloride, Upjohn), with its 1.2 to 8 grams/day dosage range, covers many serious and even life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. Lincocin IV therefore can be as useful in your hospitalized patients as its IM use has proved to be in your office patients. As with all antibiotics, *in vitro* susceptibility studies should be performed.

**1.2 to 8 grams/day IV dosage range:** Most hospitalized patients with uncomplicated pneumonias respond satisfactorily to 1.2 to 1.8 grams/day of Lincocin IV. These doses may have to be increased for more serious infections. In life-threatening situations as much as 8 grams/day has been administered intravenously to adults.

In usual IV doses, Lincocin (lincomycin hydrochloride, Upjohn) should be diluted in 250 ml or more of normal saline solution or 5% glucose in water. But when 4 grams or more per day is given, Lincocin should be diluted in no less than 500 ml of either solution, and the rate of administration should not exceed 100 ml/hour. Too rapid intravenous administration of doses exceeding 4 grams may result in hypotension or, in rare instances, cardiopulmonary arrest.

**Effective gram-positive antibiotic:** Lincocin IV is effective in respiratory tract, skin and soft-tissue, and bone

nfections caused by susceptible strains
of pneumococci, streptococci, and
staphylococci, including penicillin-
resistant strains. Staphylococcal strains
resistant to Lincocin (lincomycin
ydrochloride, Upjohn) have been
ecovered. Before initiating therapy,
ulture and susceptibility studies should
e performed. Lincocin has proved
aluable in treating patients hyper-
ensitive to penicillin or cephalosporins,
ince Lincocin does not share
ntigenicity with these compounds.
lowever, hypersensitivity reactions
ave been reported, some of these in
atients known to be sensitive to
enicillin.

**Well tolerated at infusion site:** Lincocin
travenous infusions have not
roduced local irritation or phlebitis,
hen given as recommended. Lincocin
usually well tolerated in patients who
re hypersensitive to other drugs.
evertheless, Lincocin should be used
autiously in patients with asthma or
gnificant allergies.

patients with impaired renal function,
he recommended dose of Lincocin
hould be reduced to 25—30% of
he dose for patients with normal
idney function. Its safety in
regnant patients and in infants
ss than one month of age has
ot been established.

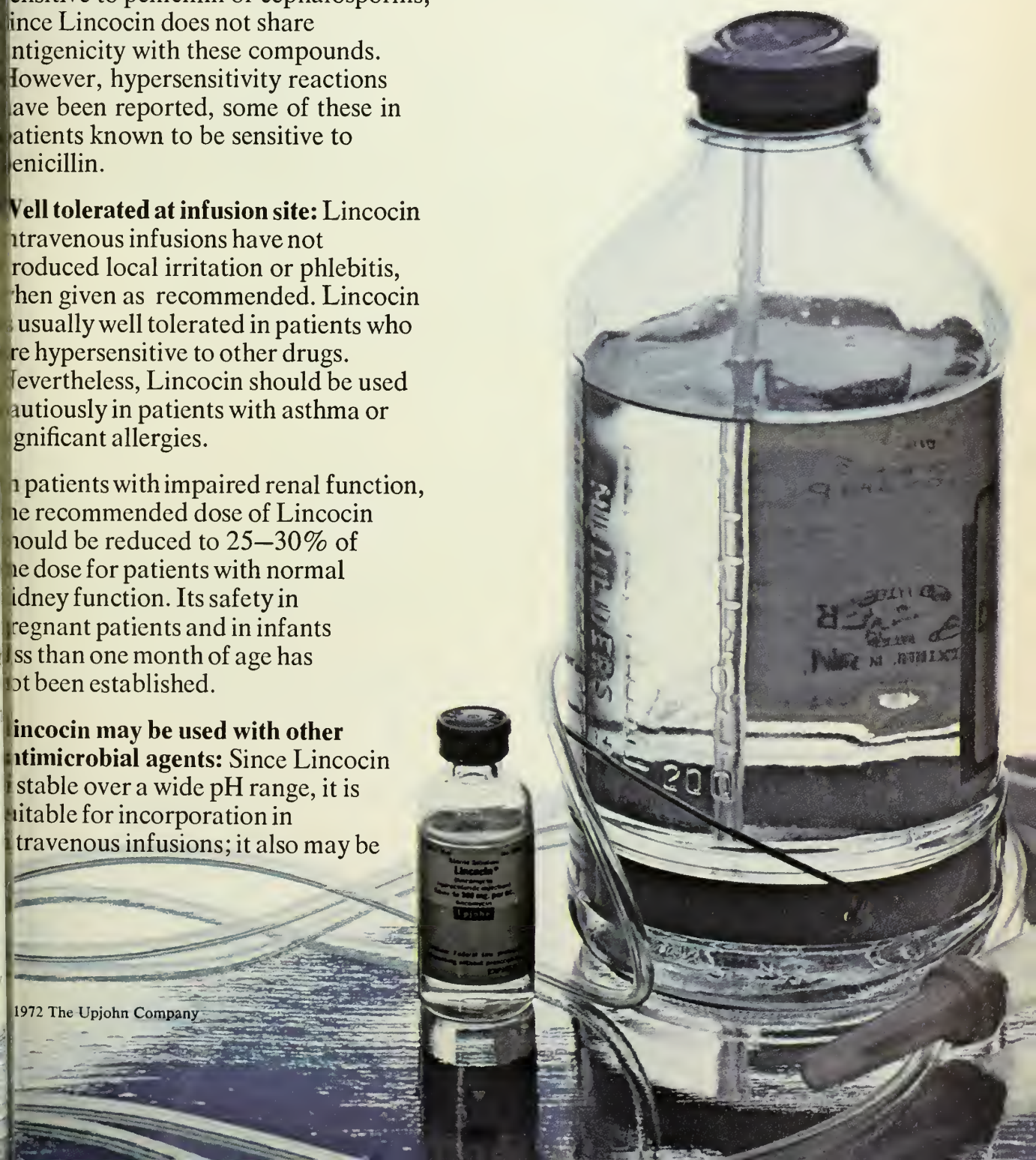
**incocin may be used with other
ntimicrobial agents:** Since Lincocin
stable over a wide pH range, it is
itable for incorporation in
travenous infusions; it also may be
administered concomitantly with other
antimicrobial agents when indicated.
However, Lincocin should not be used
with erythromycin, as *in vitro* antagonism
has been reported.

# Lincocin®

Sterile Solution (300 mg per ml)

## (lincomycin hydrochloride, Upjohn)

For further prescribing information, please see following page.




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Sterile Solution (300 mg. per ml.)

# Lincocin®

# (lincomycin hydrochloride, Upjohn)

## Up to 8 grams per day by IV infusion for hospitalized patients with life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. As with all antibiotics, *in vitro* susceptibility studies should be performed.

| Each preparation contains: | Lincomycin hydrochloride monohydrate equivalent to lincomycin base |
|---|---|
| 250 mg Pediatric Capsule | 250 mg |
| 500 mg Capsule | 500 mg |
| *Sterile Solution per 1 ml | 300 mg |
| Syrup per 5 ml | 250 mg |

*Contains also: Benzyl Alcohol 9 mg; and, Water for Injection—q.s.

Lincocin (lincomycin hydrochloride) is indicated in infections due to susceptible strains of staphylococci, pneumococci, and streptococci. *In vitro* susceptibility studies should be performed. Cross resistance has not been demonstrated with penicillin, ampicillin, cephalosporins, chloramphenicol or the tetracyclines. Some cross resistance with erythromycin has been reported. Studies indicate that Lincocin does not share antigenicity with penicillin compounds.

CONTRAINDICATIONS: History of prior hypersensitivity to lincomycin or clindamycin. Not indicated in the treatment of viral or minor bacterial infections.

WARNINGS: *CASES OF SEVERE AND PERSISTENT DIARRHEA HAVE BEEN REPORTED AND HAVE AT TIMES NECESSITATED DISCONTINUANCE OF THE DRUG. THIS DIARRHEA HAS BEEN OCCASIONALLY ASSOCIATED WITH BLOOD AND MUCUS IN THE STOOLS AND HAS AT TIMES RESULTED IN AN ACUTE COLITIS. THIS SIDE EFFECT USUALLY HAS BEEN ASSOCIATED WITH THE ORAL DOSAGE FORM BUT OCCASIONALLY HAS BEEN REPORTED FOLLOWING PARENTERAL THERAPY.* A careful inquiry should be made concerning previous sensitivities to drugs or other allergens. Safety for use in pregnancy has not been established and Lincocin (lincomycin hydrochloride) is not indicated in the newborn. Reduce dose 25 to 30% in patients with severe impairment of renal function.

PRECAUTIONS: Like any drug, Lincocin should be used with caution in patients having a history of asthma or significant allergies. Overgrowth of nonsusceptible organisms, particularly yeasts, may occur and require appropriate measures. Patients with pre-existing monilial infections requiring Lincocin therapy should be given concomitant antimonilial treatment. During prolonged Lincocin therapy, periodic liver function studies and blood counts should be performed. Not recommended (inadequate data) in patients with pre-existing liver disease unless special clinical circumstances indicate. Continue treatment of β-hemolytic streptococci infections for 10 days to diminish likelihood of rheumatic fever or glomerulonephritis.

ADVERSE REACTIONS: *Gastrointestinal*—Glossitis, stomatitis, nausea, vomiting. Persistent diarrhea, enterocolitis, and pruritus ani. *Hemopoietic*—Neutropenia, leukopenia, agranulocytosis, and thrombocytopenic purpura have been reported. *Hypersensitivity reactions*—Hypersensitivity reactions such as angioneurotic edema, serum sickness, and anaphylaxis have been reported, sometimes in patients sensitive to penicillin. If allergic reaction occurs, discontinue drug. Have epinephrine, corticosteroids, and antihistamines available for emergency treatmer *Skin and mucous membranes*—Skin rashe urticaria, vaginitis, and rare instances of e foliative and vesiculobullous dermatitis ha been reported. *Liver*—Although no direct r lationship to liver dysfunction is establishe jaundice and abnormal liver function te (particularly serum transaminase) have be observed in a few instances. *Cardiovascu* —Instances of hypotension following pare teral administration have been reporte particularly after too rapid IV administi tion. Rare instances of cardiopulmonary rest have been reported after too rapid administration. If 4.0 grams or more adm istered IV, dilute in 500 ml of fluid a administer no faster than 100 ml per ho *Special senses*—Tinnitus and vertigo ha been reported occasionally. *Local reactic* —Excellent local tolerance demonstrated intramuscularly administered Lincoc (lincomycin hydrochloride). Reports of p following injection have been infreque Intravenous administration of Lincocin 250 to 500 ml of 5% glucose in distil water or normal saline has produced local irritation or phlebitis.

HOW SUPPLIED: *250 mg* and *500* Capsules—bottles of 24 and 100. *Ste Solution, 300 mg per ml*—2 and 10 ml v and 2 ml syringe. *Syrup, 250 mg per 5* —60 ml and pint bottles.

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**Contraindications:** Concurrently with MAO inhibitors, in patients hypersensitive to this drug; in emotionally unstable patients susceptible to drug abuse

**Warning:** Although generally safer than the amphetamines, use with great caution in patients with severe hypertension or severe cardiovascular disease. Do not use during first trimester of pregnancy unless potential benefits outweigh potential risks.

**Adverse Reactions:** Rarely severe enough to require discontinuation of therapy, unpleasant symptoms with diethylpropion hydrochloride have been reported to occur in relatively low incidence. As is characteristic of sympathomimetic agents, it may occasionally cause CNS effects such as insomnia, nervousness, dizziness, anxiety, and jitteriness. In contrast, CNS depression has been reported. In a few epileptics an increase in convulsive episodes has been reported. Sympathomimetic cardiovascular effects reported include ones such as tachycardia, precordial pain, arrhythmia, palpitation, and increased blood pressure. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride; this was an isolated experience, which has not been reported by others. Allergic phenomena reported include such conditions as rash, urticaria, ecchymosis, and erythema. Gastrointestinal effects such as diarrhea, constipation, nausea, vomiting, and abdominal discomfort have been reported. Specific reports on the hematopoietic system include two each of bone marrow depression, agranulocytosis, and leukopenia. A variety of miscellaneous adverse reactions have been reported by physicians. These include complaints such as dry mouth, headache, dyspnea, menstrual upset, hair loss, muscle pain, decreased libido, dysuria, and polyuria.

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The Journal
of the
South Carolina Medical Association

VOLUME 68 FEBRUARY, 1972 NUMBER 2

# CAROTID ARTERY SURGERY AND INTERMITTENT MONOCULAR BLINDNESS (AMAUROSIS FUGAX)*

W. S. HOUCK, M. D. and
HUNTER STOKES, M. D.
Florence, South Carolina

Over the past five years, 42 carotid endarterectomies have been carried out in 32 patients at the McLeod Memorial Hospital in Florence, South Carolina. The great majority of these patients have been operated on for transient ischemic attacks, involving the cortical hemisphere. (Figure 1.) Nine of these patients have been operated upon because of amaurosis fugax or intermittent monocular blindness. This report concerns these nine patients.

The age range was from 46 to 76 years, with the majority of patients in the seventh and eighth decade of life. Only three patients were below 60 years of age. There was only one female in this group of patients. All but two of the patients had some other stigma of cardiovascular disease. Two of the patients had had previous ischemic attacks involving the cortical hemispheres. Eight of the patients had unilateral eye signs, while one had bilateral signs. This latter patient was the first patient we saw; and, with the first attack, he was treated with anticoagulants, only to develop transient blindness in the other eye six months later. Following the last attack, bilateral carotid endarterectomy was instituted.

All of these patients were initially seen by the ophthalmologist. They described their blindness in a rather characteristic manner. It was sudden in onset and free from pain. The blindness usually lasted for several minutes and the vision returned. In two of the patients, however, there was total or partial blindness in the involved eye.

The diagnosis of carotid artery disease was suspected by an abnormal ophthalmodynometry or a bruit in the neck. The funduscopic picture was characteristic and revealed the so-called Hollenhorst plaques in the retinal vessels in all of these patients. Total ischemia of the retina was seen in one patient. An accurate diagnosis was not made, however, until carotid arteriograms were done. This included three or more of the neck vessels.

**Figure 1.**

| | |
|---|---|
| Transient Hemiparesis (TIA) | 62% |
| Transient Blindness | 28% |
| Syncope, Dizziness | 10% |
| Gunshot Wound | |
| Psychotic and Confused | |

*Presented at the South Carolina Surgical Association, June 1971.



**Figure 2. Carotid Arteriogram. A-P and lateral views of the right carotid arteries, showing ulceration at the proximal end of the internal carotid.**

In three of these patients, there was total occlusion of the internal carotid artery and six of the patients had partial occlusion. Three of these patients had obvious ulceration of the carotid intima. (Figure 2) Seven of the nine patients were operated upon and had carotid endarterectomy performed. Two of the patients with total occlusion were not explored, but were treated with anticoagulants. The remaining patient with total occlusion was explored, but the vessel could not be opened.

There were no deaths in this group of nine patients and there have been no further episodes of amaurosis fugax. It is of interest that the one patient who had bilateral endarterectomy has since had an episode of syncope and Stokes-Adams attack. This was due to a hypersensitive carotid sinus and required pacemaker insertion.

## Discussion

We, in Florence, South Carolina, feel very strongly that the proper management of TIA's, concerns the entire medical community, and not necessarily the surgeon and neurologist. We feel that this is reflected in these patients. Transient monocular blindness, just as transient cerebral insufficiency, is an ominous sign. There are numerous reports in the literature of a catastrophic stroke following an episode of blindness,[1,2,3] and often, as in two of our cases, the blindness may be persistent.

The transient monocular visual loss is painless, and this is the hallmark of occlusive carotid disease. It seldom lasts more than 20 minutes and rarely occurs with transient ischemic attacks involving the cortical hemispheres. The loss of vision may be total or partial, and the return of vision is usually very rapid.

This syndrome results from embolization from the carotid vessels in the neck. The emboli may be aggregates of platelets or cholesterol crystals. They both may originate from ulceration in the carotid artery wall, but platelet emboli may arise from stasis in the carotid artery in the absence of ulceration. The cholesterol emboli on fundoscopic ex-

amination show as small bright bodies in the retinal arteries. The platelet aggregates appear as red or white bodies occluding the vessels.

Every patient with monocular visual loss is not a surgical candidate, but those with demonstrated carotid disease, be it occlusive disease or ulcerative disease, need surgery. The surgical exploration should not be delayed until total recovery, as is recommended in those with transient cerebral ischemia. Surgical endarterectomy of the diseased ipsilateral artery is the treatment of choice. In those vessels totally occluded, exploration may be undertaken, in the hopes of opening the vessel. But, if this is not successful, as is usual, long-term anticoagulation is recommended.

## Summary

Transient monocular blindness should be considered as an ominous sign of an impending cerebral vascular accident. Proper identification of the diseased carotid artery with an arteriogram is indicated. If disease is noted in the neck vessels, be it occlusive or ulcerative, surgical endarterectomy should be undertaken. Prevention of total blindness and prevention of cerebral vascular accidents can be expected with early surgical correction of the vessel involved.

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Adenogarcinoma of The Endometrium: A Ten year Experience At The Medical University of South Carolina—James L. Purcell, M.D., and Paul B. Underwood, Jr., M.D. (Charleston, S. C.). Southern Med J 64:961 (August, 1971).

The authors review the results of the treatment of this disease over a period of a decade. Treatment was primarily surgical. Because of the results, the authors indicate they have changed the pattern of management to include irradiation before operation. No results are given to indicate whether they have found this change beneficial, no doubt because of too brief a period of follow-up.

# CLINICOPATHOLOGICAL CONFERENCE

# OF

# THE MEDICAL UNIVERSITY OF SOUTH CAROLINA

## "CHRONIC LUNG AND LIVER DISEASE WITH DROWSINESS IN A FORTY-YEAR-OLD"

CLINICIAN: DR. KELLY McKEE
RADIOLOGIST: DR. CHARLES GRIFFIN
PATHOLOGIST: DR. RUSSELL A. HARLEY

H. RAWLING PRATT-THOMAS, M.D., EDITOR
JANE K. UPSHUR, M.D., ASSISTANT EDITOR

The onset of severe chronic obstructive lung disease in this 40 year old Caucasian insurance executive occurred eight years prior to his final admission, at the age of 33. He had been exposed to dust in Korea at 23 years of age, but to no noxious fumes. For several years he had been unable to work a full day because of dyspnea, lethargy, and fatigue. His cough was usually not productive, but recently caused abdominal pain.

Two months prior to admission he became alarmed by an episode of rectal bleeding and was seen by his family doctor, who noted ascites, peripheral edema, and jaundice, with a bilirubin of 11 milligrams percent. After a short period of diuretic therapy, he was hospitalized. Ten days prior to admission 4800 ccs of ascitic fluid were removed by paracentesis and two days prior to admission 5700 ccs were removed.

He had to be physically aroused to provide a history. His major complaint at this time was abdominal swelling. He appeared well developed, gaunt, and approximately the stated age. He admitted poor nutrition and moderately heavy alcohol ingestion with increased drinking shortly prior to admission. The patient had the usual childhood diseases without sequellae.

On physical examination he was icteric. There was sacral edema and severe edema of the lower extremities. No spider angiomata were present. The abdomen was protuberant with a fluid wave. The breasts were somewhat enlarged. One observer thought the liver was palpable 5 to 6 finger breadths below the right costal margin, but another could not palpate the liver, and could not percuss its outline.

The lungs were hyperresonant to percussion, diaphragmatic motion was limited, breath sounds were distant, expiration was prolonged, and there was slight wheezing. Rhonchi were present at first, but these disappeared after coughing. The respiratory rate was 20. No pleural rubs were heard.

Heart sounds were distant and heart rate was 120 per minute; no murmurs were heard. Blood pressure was 95/60. The peripheral pulses were normal.

The genitourinary system was normal. There was no hernia. Rectal examination was normal, and the prostate was normal to palpation.

Admission laboratory data: Hemoglobin 13.3 gms percent with a hematocrit of 40 vols percent. The total protein was 5.0 gms percent with an albumin of 2.4 gms percent.

Prothrombin activity was 27 percent of normal. The alkaline phosphatase was 15.4 King-Armstrong units. LDH was 200, SGOT 58 and SGPT 8. The blood ammonia was 59 mcg percent. Electrolytes were: Na of 140, K of 4.1, Cl was 101 and the $CO_2$ combining power was 35.

Neurological consultation was obtained. No focal neurological signs were discovered but mild mental deficiences consistent with the patient's metabolic disorders were noted. The tendon reflexes were brisk and there was no evidence of increased intracranial pressure.

EEG revealed an excessively slow tracing with bisynchronus bilateral delta activity.

Ascitic fluid on the fifteenth hospital day contained no suspicious cells on cytologic examination and was subsequently negative on smear and culture for bacteria including acid fast organisms. Multiple urinalyses were normal. On the fifteenth hospital day feces were 4+ positive for occult blood. On the fourteenth hospital day, ascitic fluid contained 280 mgs of protein. A 24-hour urine specimen for sodium and potassium on the sixteenth hospital day revealed a volume of 300 ccs, sodium 1.0 mEq, potassium 77.5 mEq. Urine osmolarity also on the sixteenth day was 605 milliosmols, and was noted to contain mannitol. On the eighth hospital day, vital capacity was 2.6 liters, 58 percent of the predicted value. Maximum breathing capacity was 32 liters per minute as opposed to a predicted normal of 112. On the fourteenth hospital day the blood pH was 7.53, with a $pO_2$ of 52, $pCO_2$ of 30, $O_2$ saturation of 90 percent and the buffer base was 50.

Electrocardiograms on the sixth, ninth and thirteenth hospital days all showed sinus tachycardia and low voltage. Upper gastrointestinal series and barium enema were normal.

A low salt diet was instituted, and because the patient had been on diuretics 1000 ccs of 10 percent dextrose in water were given on the first hospital day. Vitamin K was given daily by intramuscular injection. Virtually continuous coughing was described. Oxygen was given by nasal cannula for dyspnea. Aldactazide was begun on the fourteenth hospital day. Salt-poor albumin was given at intervals, and 40 mg prednisone intramuscularly every six hours. By the nineteenth hospital day, Aramine was required to maintain blood pressure.

Blood pressure remained around 100/70 throughout most of the hospitalization. Weight on admission was 155 pounds, which increased to 160 by the tenth hospital day, to 165 by the fourteenth hospital day, and to 170 on the eighteenth hospital day. The patient was never febrile. Rather wide swings in pulse were noted, varying from 82 to 160. These swings were more noticeable later in the hospital course, and the pulse in general was higher.

On the eighteenth hospital day, widespread evidence of petechial hemorrhage was noted and increase in somnolence. Intellectual functions deteriorated, and dependent edema became worse. On the twentieth hospital day, gasping respirations were noted and shock ensued, which lead to death.

**Dr. McKee**: I am apprehensive about this conference. When a pathologist comes to you and tells you a patient has lung disease and writes at the top of the protocol "Chronic lung and liver disease," it sounds as if he is giving away the diagnosis. I am sure that all of you know that when the pathologist gives you anything, you had better remember the old adage "Beware of the Greeks bearing gifts".

As the protocol points out, this was a young man with an eight year history of lung disease which had interfered with his activities to the extent that he could work only part of the day for several years. That an individual who presumably had a desk job was unable to fully maintain his occupation suggests that he had a rather severe disease. He had a cough and abdominal pain related to the cough. There was nothing in this history suggesting hepatic disorder until he went to see his doctor because of rectal bleeding two months before his final hospital admission. At that time he was jaundiced and had edema and ascites. He was treated with diuretics. He had paracentesis on two occasions, but obviously did not improve since he

was hospitalized for further treatment. At the time of his admission to the hospital he was obtunded. His major complaint was swelling of the abdomen. Physical examination suggested he had lost weight. He admitted that his nutrition had been poor and that he had been a moderately heavy alcohol user; we don't know for how long. There is nothing in his history that suggests prior liver disease. Physical examination was that of a patient with hepatic disease. He was icteric and had an enlarged abdomen and ascitic fluid. Two observers couldn't agree on whether his liver was enlarged. No other abdominal masses were noted. His lungs were certainly consistent with the past history of lung disease. They were hyperresonant, diaphragms were apparently lowered, and breath sounds were distant. On expiration he had some wheezing and rhonchi. In addition his heart sounds were distant as one expects in a patient with a chronic obstructive lung disease. Blood pressure was below normal. Rectal examination was non-revealing. Hemorrhoids were not mentioned; it is assumed there were none. Neurological examination revealed no focal abnormalities but he had some changes consistent with a metabolic disorder. From this point on the protocol reviews the laboratory data and hospital course. We shall go back at this point and talk a bit about some of the features of his illness as they relate to the history and physical findings. I don't know why the observation was made that he was exposed to dust in Korea. I would imagine that we are all exposed to dust wherever we are. I don't know what kind of dust this was, and whether this is a pertinent item in this man's illness is quite uncertain. If it is, it apparently didn't produce any significant findings until at least 10 years after his Korean activities and probably is unrelated. Nevertheless, it does raise a question as to whether he might have contracted a fungal infection of some type or whether the dust exposure might have produced some type of pneumoconiosis. The fact that he developed what sounds like chronic obstructive lung disease at a young age, his early thirties, brings up one other very interesting question that I think needs to be discussed because it related to the subsequent serum protein electrophoretic pattern. In the middle 1960's it was recognized that what has been known for a longer period of time as familial emphysema is related, part of the time at least, to the presence of a deficiency in one of the components of the serum globulins. These observations were originally made in Sweden as a result of a careful and detailed study of serum protein electrophoretic patterns. It was found that in a group of people the alpha-1 globulin fraction was very low or actually missing in the electrophoretic pattern. It was interesting to observe that in these people with a diminished spike in the alpha-1 globulin fraction, chronic obstructive lung disease was quite common. Further investigation of this finding revealed that a group of individuals who had absence of a normally present antitryptic activity in serum. It has been known for a long time that serum exhibits antitryptic activity which is of considerable importance to the body. These individuals with an absent alpha globulin spike had very low or absent antitryptic activity in their serum, and this deficiency of alpha-1 antitrypsin correlated very well with the presence of chronic obstructive lung disease. Subsequently it was learned that this alpha-1 antitrypsin deficiency was inherited as an autosomal trait. Those individuals that were homozygous were the ones that had a very very low antitryptic level and to a large extent were the group having chronic lung disease. Not every patient with alpha-1 antitrypsin deficiency was shown to have chronic obstructive lung disease at the times these studies were done. There was a much larger group who were heterozygous. These people had a lower than normal antitryptic activity in serum, but they had some antitryptic activity, and there is some question at the present time whether these individuals do have more lung disease than the general population. Those individuals that are homozygous may have obstructive lung disease at an early age, and interestingly, the occurrence of this obstructive lung disease in the homozygous individuals is equal in both sexes, whereas

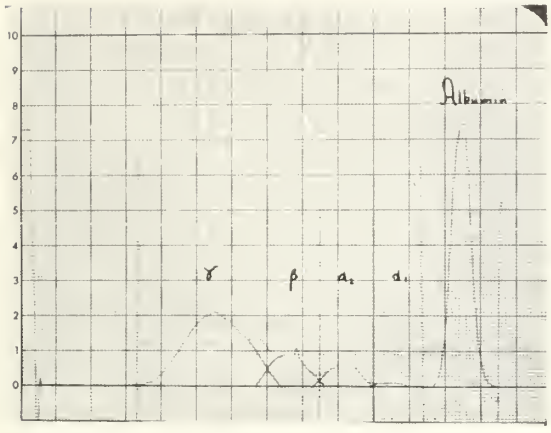



**Figure 1. Serum protein electrophoretic pattern with diminished alpha-1 globulin (suggesting alpha-1 antitrypsin deficiency) and elevated gamma globulin secondary to liver disease.**

most of the chronic obstructive lung disease that we see in the general population is a great deal more common in males. In our part of the country, it is a great deal more common in white males than in Negroes. So the question here as to whether this man had a chronic obstructive lung disease process related to his alpha-1 antitrypsin deficiency certainly is pertinent. The low level of the alpha-1 globulin in his electrophoretic pattern suggests this possibility. (Figure 1)

We don't know whether this man was a smoker; it is not mentioned. The relationship of smoking to the occurrence of lung disease in this group of people is not clear but it is probable that it aggravates and produces greater progression of lung disease than is seen in the non-smokers. One other interesting phenomenon that has been observed in the antitrypsin deficiency group is that a number of children have been found to have a type of hepatic disease, a type of congenital cirrhosis. The relationship of this man's liver disease to his alpha-1 antitrypsin deficiency might be questioned but so far as I know the only liver disease that has been found has been in very small children with antitrypsin deficiency. I question whether there is a relationship here. To proceed a little further with comments about his pulmonary disease, his maximum breathing capacity was reported as being 32 liters a minute and his vital capacity as being reduced to 58 percent of predicted normal. The reduced vital capacity is consistent with but not necessarily present in patients with chronic obstructive lung disease. A prolonged timed vital capacity would be of considerable help here, but a maximum breathing capacity of around 30 percent of predicted normal is certainly evidence of severe lung disease. It is not necessarily incapacitating lung disease. Patients that have far advanced incapacitating chronic obstructive emphysema have even lower values than 30 percent. The electrocardiogram showing low voltage and sinus tachycardia would be consistent with chronic lung disease but not necessarily diagnostic of it. Now we come back to what appeared to be the major problem at the time of admission, that is the suggestion of hepatic insufficiency with ascites, jaundice, edema and a history of rectal bleeding. Ordinarily the patient who has advanced liver disease with cirrhosis has hemorrhoids. Serious rectal bleeding from hemorrhoids is not uncommon. Whether this was the origin of this bleeding I do not know. There is no comment as to whether he had hemorrhoids or not. This would certainly be one of the possibilities. Another interesting feature of his physical examination is that he had no spider angiomata. Spider angiomata are common in cirrhosis of the liver. Gynecomastia, which he did have, is also common in cirrhosis of the liver. Ascites and jaundice are both to be expected in advanced cirrhosis. A history is given of poor nutrition and moderately heavy alcohol intake. It would be a great deal more helpful if we knew the duration of this heavy alcohol intake and poor nutrition. In the absence of this information, with the stated physical findings and other features of liver illness, that he had cirrhosis is a likely possibility. The liver might be enlarged or it might be small. I don't think it makes much difference. Alcoholics with liver failure relatively early in the disease process may have a fatty liver which is larger than normal. Such a liver has a tendency to respond a little better to therapy. The small liver of cirrhosis has a much worse prognosis in the long run because of the fibrotic process which exists. The electroencephalographic bilateral

delta activity was consistent with what is often found in patients who have liver failure. The neurological consultation which said there were no focal neurological signs did not tell us whether he had asterixis or liver flap, which is not confined to liver disease. It may be seen in patients with uremia and patients with advanced emphysema. We generally use it as a helpful sign to determine the degree of hepatic insufficiency and its effect on the central nervous system.

I might take a few minutes now and talk about the laboratory data. On admission blood ammonia level was 59 micrograms percent. This is somewhat above the normal level for blood ammonia but it is not an extremely high level. Many of the patients that we see with liver failure have higher blood ammonia levels. At a later date, liver function was better in that the blood ammonia level was down to 19. The alkaline phosphatase and transaminase are perhaps a little out of line, I don't think I can say much about that. Urine was normal. Patients with advanced liver disease are found to have a lower than normal blood urea nitrogen because they are unable to make urea. Prothrombin activity in this case is much more impressive, much more indicative of advanced hepatic disease, only 27 percent of normal. Furthermore, this failed to respond to supplemental vitamin K throughout his hospital stay. He wasn't significantly anemic and his proteins were a little on the low side, also consistent with liver disease.

What happened to him in the hospital? He was put on a low salt diet, was given 10 percent dextrose with water, vitamin K and other vitamins, oxygen, intermittent positive pressure breathing, antiacids, diuretics, salt poor albumin and prednisone. In spite of all this supportive therapy his condition continued to deteriorate. He was shocky on the 19th hospital day and he died on the 20th day. Interestingly, he gained 15 pounds in weight during his stay of almost 3 weeks in the hospital. Terminally, he developed petechial hemorrhages and one would also suspect that he probably had some bleeding into the gastro-intestinal tract as well. It seems most probable that alcoholic or nutritional cirrhosis of the liver is what this man had. We might mention a few other considerations which I will discard. Could he have had chronic



**Figure 2. Chest x-ray films in 1963 and 1971. Films were interpreted as suggestive of emphysema, but showed little change over the course of 8 years.**

hepatitis which lingered a long period of time and eventually produced hepatic failure? Did this man, while in Korea, pick up one of the parasitic infestations which is associated with the development of liver disease at some later date, schistosomiasis or one of the flukes. If he had this, the pathologists are going to have to tell me about it because I certainly couldn't make such a diagnosis. Is it possible that he had sufficiently severe lung disease to develop cor pulmonale and that right sided heart failure was responsible for cardiac cirrhosis? We haven't looked at his x-ray films and I think we might take a minute now to see whether we get some help from them.

**Dr. Griffin**: To begin with, there is a series of five prior chest x-ray films dating from November, 1963 to February, 1971. I think the striking thing about these is that there was virtually no change in the radiographic appearance of the chest over this period of 8 years. (Figure 2) Throughout, he had a mildly emphysematous appearance with some depression of the diaphragm, some peripheral hyperlucency, and a suggestion of fibrotic stands in the left mid-lung field. On our final film, the lungs really do not look particularly emphysematous. Often young individuals, particularly if they are fairly thin and in reasonably good health, can give a picture which almost borders on emphysema. This may be quite striking on occasion. Some Marine drill sergeants have the most emphysematous-looking chests in the world, yet actually this is just because of their posture and physical condition. This patient did have a small heart which goes along with emphysema, but this is not very striking. Again, correlation between the x-ray film and what is seen clinically is sometimes poor. I see no other evidence of pulmonary disease. One thing which I will mention that Dr. McKee didn't know was that the patient was diagnosed as having peptic ulcer disease in 1961. A barium enema was done, as mentioned. It was really not a good enema; he had a lot of air in the colon. I don't think it could exclude a small polypoid lesion as a possible cause for bleeding. Certainly there is no large annular lesion. There is a diffuse haze



**Figure 3. Radioactive scan showing small liver and enlarged spleen.**

throughout the abdomen and all the bowel seems to be floating. I think this is the result of ascites. There were a few spot films of the esophagus. They were interpreted as normal. I think this is reasonable, although one did suggest the possibility of a varix. A liver scan was done on February 3, 1971 which shows a rather large spleen with a fairly high uptake in the spleen. (Figure 3). It shows what appears to be a relatively small liver. The liver appears a little smaller than it did on x-ray examination. There are several explanations for this. Actually the liver may be small; it is somewhat centrally located. This may be due to ascitic fluid along the margin which is pushing the liver over and which is also blocking some of the gamma rays of the scan. Also there is a large spleen. The scan works on the basis of the R-E system taking up the colloid and this apparently is taking up a great deal of it, which means it isn't being taken up in the liver, and as a result the liver shows up less well. I am not sure how good a diagnostic aid this is in telling exactly what

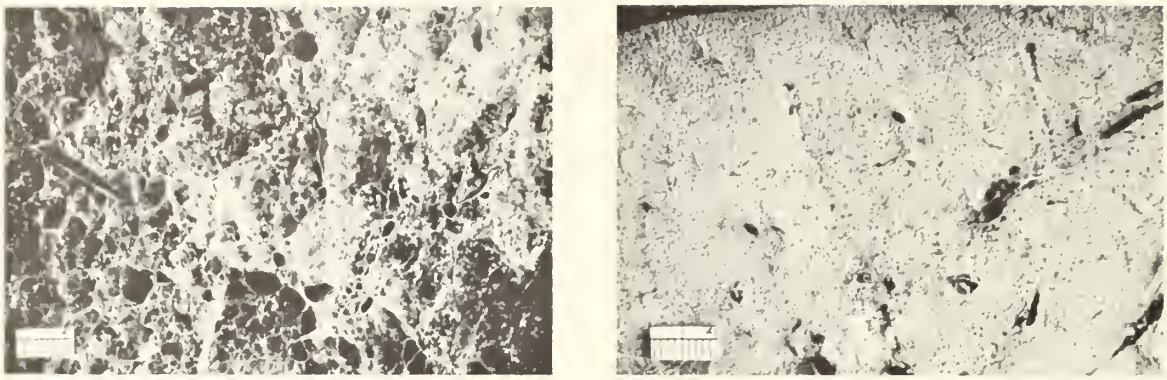


**Figure 4. On the left is cut surface of dried inflated lung from this patient. One cm marker is in corner of photograph. Severe panacinar emphysema is present. Examination of the whole lung showed this to be a generalized change, somewhat more severe at the bases. Mild centrilobular emphysema was also discernible in some apical regions.**
**A normal lung similarly prepared is seen on the right.**

the size of the liver is with these other problems present.

**Dr. McKee:** Is this a pattern you would expect to see in a patient with cirrhosis?

**Dr. Griffin:** It would certainly fit.

**Dr. McKee:** One more comment about the chest in the alpha-1 antitrypsin deficiency. Patients having this disorder are described as having panlobular emphysema with more obvious evidence of emphysematous change in the lower part of the lung field. Radioactive iodine albumin studies show relatively poor perfusion in the lower parts of the lung as compared to the upper parts in patients with this disease. There are a few other items in the laboratory data that I want to talk about. You will notice that while this patient's electrolyte pattern appears fairly satisfactory on admission, by the 12th to 15th hospital day his sodium and chloride levels had dropped rather strikingly as had his $CO_2$ combining power. Then, on the 15th day his pH was 7.53, $PCO_2$ was 30 and $PO_2$ was 52. These are rather startling changes and require explanation. What happens to the patient's acid-base metabolism and water metabolism in advanced liver disease with hepatic failure? I think we must go back to the fact that this man had had two paracenteses before he was admitted to the hospital. I have observed that this very frequently happens in a patient who has had large quantities of fluid removed from the abdominal cavity. He lost his fluid and electrolytes into his abdominal cavity and developed a sort of dilutional hyponatremia associated with a drop in his effective circulating blood volume. Urine output decreased. Note that he was given diuretics repeatedly and in spite of that still had poor urinary output. This man apparently had a very small circulating blood volume and was retaining sodium maximally. His 24 hour urine volume on one occasion was 300 ccs and had only one mEq of sodium per liter. He was also getting rid of potassium at the rather rapid rate of 77 mEq of potassium in his 24 hour specimen. Such findings are not unusual in patients with hepatic failure. Is there some increase in antidiuretic hormone secretion? This has been questioned but apparently it does not happen. The decrease in effective circulating blood volume stimulates ACTH secretion and this in turn brings about rather strong sodium retention by the kidneys. This seems to be the explanation for the situation that occurred. Other interesting features in the laboratory data are the blood gas values and the blood pH. Here is a man with what we assume to be advanced liver disease and advanced lung disease, though x-ray examination changes don't look so severe. A patient with pulmonary obstructive lung disease of a chronic sort ordinarily has a tendency to retain $CO_2$ and to be slightly acidotic. At the same time the patient with liver disease, liver failure, and increased ammonia production has a tendency to develop hyperventilation and to become alka-

lotic. So in this case at least the lung disease must not have been severe enough to prevent development of alkalosis relating to ammonia retention and hyperventilation. He was able to hyperventilate sufficiently to lower his $PCO_2$ significantly and to elevate his pH.

Why did this man die? Apparently he gradually slipped into a state of vascular collapse. Perhaps he bled into his gastro-intestinal tract, which might have caused a rise in blood ammonia above the level that it was on the 13th hospital day. His hematocrit fell 4 points which wouldn't indicate any massive amount of hemorrhage but may have been indicative of the fact that he did lose some blood and that this was responsible for his death at the time it occurred.

In conclusion the diagnoses that I am left with are chronic obstructive lung disease possibly related to deficiency of alpha-1 antitrypsin, cirrhosis of the liver, nutritional in origin or alcoholic in origin, and possibly cor pulmonale, although there was no significant cardiac enlargement on x-ray examination.

**Dr. Harley:** Dr. McKee has done an admirable job and has hit most of the nails on their heads. However, in this case we had enough nails so that a few escaped. The nail that everyone missed in this case was this man's rather mild acute pancreatitis. There was fat necrosis about the pancreas grossly and histologic evidence of both acute and chronic pancreatitis was found. This was probably related to alcoholism. Pancreatitis may have accounted for some episodes of abdominal pain on coughing. The small liver seen on x-ray film and on I-131 scan was the result of Laennec's cirrhosis related to alcoholism. The large spleen was caused by congestion secondary to portal hypertension. Small regions of necrosis in the liver were probably secondary to shock. There was slight bile stasis in the liver and there was also some bile in the kidneys. The diagnosis of hepatic encephalopathy based on the bilateral bisynchronous slow delta waves on electroencephalogram was confirmed microscopically by the presence of large vacuolated astrocytes in the brain. Hepatic encephalopathy is apparently not related directly to the

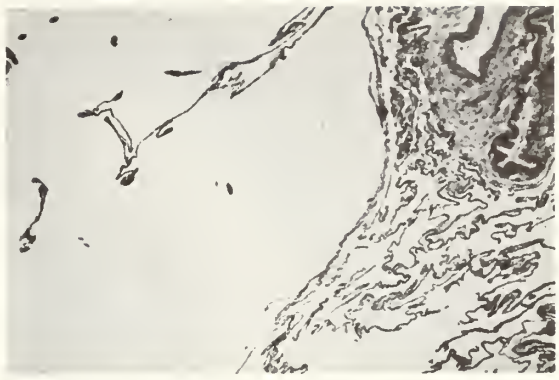


**Figure 5. Photomicrograph of lung showing focus of airspace destruction with cross-sections of isolated strands of tissue pathognomonic of emphysema. H&E Stain Approx. 20 X.**

blood ammonia level so the falling ammonia level did not necessarily mitigate this lesion. It was pointed out this man's emphysema was present 7 years ago and stayed about the same by x-ray examination. The status of the heart also seemed relatievly stable. However, anatomically, this emphysema was severe (Figures 4 and 5). These lungs were about as extensively destroyed by emphysema as possible. The question then is why was his emphysema quiescent for so many years and why did he not develop a severe degree of cor pulmonale? I think the reason is that he had very little chronic bronchitis, despite a history of fairly heavy cigarette smoking. He smoked two packs a day for twenty years, but gave up smoking when his emphysema became severe.

The serum electrophoretic pattern in patients with cirrhosis may show that the beta and gamma peaks blend, but the alpha-1 peak should be normal. The alpha-1 globulin level in this patient was .2 which is within the normal range of about .1 to about .4. A patient with homozygous alpha-1 antitrypsin deficiency should show no peak at all. Severe homozygous disease is usually associated with emphysema since there are no alpha-1 globulins to bind tryptic enzymes and keep them from acting on tissue. The proof that antitrysin deficiency was present in this case was found with a more specific test, the serum trypsin inactivation test. This man's serum value was 0.79 mgs per milliliter. The normal range is $2.71 \pm 0.8$ in Dr. Richard

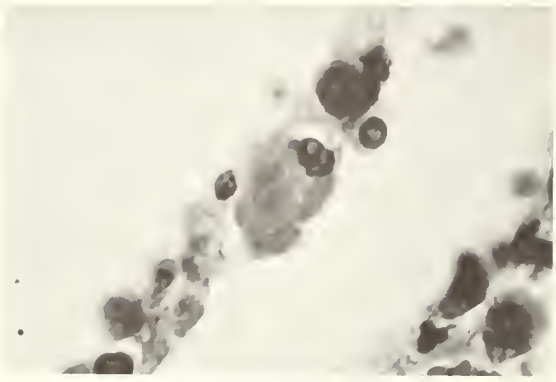


**Figure 6. Microthrombus in alveolar capillary composed predominantly of platelets. These were present in only small numbers. H&E stain. Approx. 900 X.**

Gadsden's laboratory.

Occasional capillary thrombi were seen in the lung. (Figure 6). This man also had slight interstitial pneumonia. (Figure 7) I haven't seen enough patients with alpha-1 antitrypsin deficiency emphysema to know whether this is a feature of the disease. The presence of the neutrophils in the alveolar septa raises the query whether the neutrophils themselves cause this form of emphysema. Proteolytic enzymes which are capable of dissolving lung tissue can be obtained from white cells. Neutrophils are cleared through the lungs to a large degree. Perhaps it is the activity of these disintegrating cells that causes the disease in the lungs rather than affecting some other part of the body. Additionally, alveoli themselves are very delicate and prone to such damage. Pigmented macrophages are seen consistently in small numbers in emphysema. They may contain products of alveolar wall and capillary destruction. Proteolytic enzymes from macrophages as well as neutrophils may play a part in causing the disease.

Centrilobular emphysema is usually a focal disease affecting mostly the upper parts of the lungs, i.e. the superior segment of the lower lobe and the apical portion of the upper lobe. It is usually with chronic bronchiolitis. The emphysema itself may not be very severe but frequently there is coexistent bronchitis, hypoxia and associated vascular emphysema is relatively mild. The present patient had very severe generalized panacinar emphysema, not centrilobular. As I mentioned before, there was relatively little chronic bronchitis. I think the reason he had little cor pulmonale is that he had very little vasospasm. He was a pink puffer, not a blue bloater.

Only recently has emphysema been produced experimentally and it has been produced with an enzyme. The principle appears to be the same as in alpha-1 antitrypsin deficiency emphysema. At about the same time that Drs. Laurell and Eriksson of Sweden noticed that people with alpha-1 antitrypsin deficiency often had chronic lung disease, Dr. Paul Gross of Pittsburgh produced emphysema experimentally using papain. Animals developed both panacinar and centrilobular emphysema. A coarsening of capillaries is sometimes produced in these animals indicating that loss of capillaries may be one of the first events in emphysema production. An interesting observation of Dr. Gross is that the emphysema produced with papain occurs in a matter of hours or minutes. This may explain why the pathogenesis of emphysema has for so long remained obscure. It may be that the lesion is produced and resolves in a matter of minutes or hours, leaving a hole. It may take years for enough of these holes to develop to produce clinical disease.

The pi system of inheritance of alpha-1 antitrypsin deficiency is complicated, but

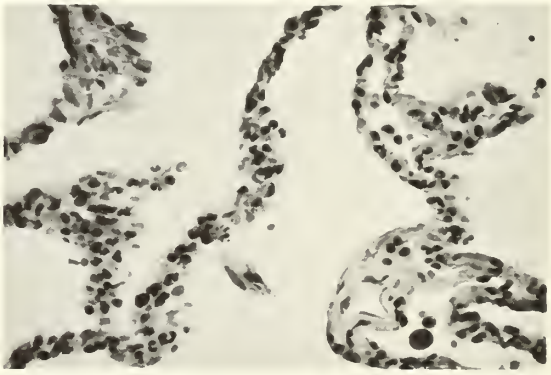


**Figure 7. Mild acute interstitial pneumonia which was found in some sections. A polymorphous inflammatory cell infiltrate is present. H&E stain. Approx. 300 X.**

spasm. Such chronic vaso-spasm is the usual cause of cor pulmonale in cases in which the what it boils down to is that certain types of homozygotes will always get emphysema, may get it in childhood, and may die of advanced emphysema in childhood, where as other types of homozygotes may have much milder disease and live a full life. Heterozygotes may have fairly severe disease or no disease. It is not usually possible at the present time to predict the course of the disease on the basis of the pi system, but in a few years once enough data is gathered this will be possible.

**Question from audience:** Is the cirrhosis in alpha-1 antitrypsin deficiency different from Laennec's cirrhosis?

**Dr. Harley:** In some affected children there is a rather characteristic lesion with amorphous round intracytoplasmic inclusions which are best seen on EM but which can be seen fairly clearly with a PAS stain using the optical microscope. These same lesions can be produced by hypoxia. The cirrhosis in children actually occurs in infants and has not yet been described as developing in anyone over about 10 years of age. The cirrhosis in the case presented can be linked to alcoholism more justifiably than to antitrypsin deficiency.

## DIAGNOSES

CLINICAL DIAGNOSES:
Laennec's Cirrhosis.
Pulmonary emphysema, possibly alpha-1 antitrypsin deficiency associated.
Hepatic Encephalopathy.

DR. KELLY McKEE'S DIAGNOSES:
Laennec's Cirrhosis.
Alpha-1 antitrypsin deficiency emphysema.
Hepatic encephalopathy.
Mild cor pulmonale.

NECROPSY DIAGNOSES:
LAENNEC'S CIRRHOSIS.
GENERALIZED, SEVERE PANACINAR EMPHYSEMA WITH ALPHA-1 ANTITRYPSIN DEFICIENCY.
HEPATIC ENCEPHALOPATHY, SEVERE.
CEREBRAL EDEMA.
Acute pancreatitis, mild.
Right ventricular hypertrophy, mild.
Focal necrosis of liver (shock).
Small acute cerebral infarct.

### REFERENCE

Proceeding of the International Symposium on Proteolysis and Emphysema. Mittman and Lieberman, eds. Academic Press. (in press)

# ABDOMINOPERINEAL RESECTION FOR RECTAL CARCINOMA IN A 92 YEAR OLD MAN

## CASE REPORT

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Spartanburg, South Carolina

Many authors[1,2,3] have reported success with abdominoperineal resection in the patient over 70 years of age. Although most series report a higher mortality in the aged patient, many patients survive and live many years.[1,3] The alternative treatment is electrocoagulation under anesthesia, as advocated by Madden and Kandalaft.[4] The greatest disadvantage of this treatment is that it doesn't work nearly as well on patients with large, deep infiltrating tumors as it does on patients with small polypoid carcinomas.

The purpose of this report is to present a case report of successful abdominoperineal resection in a very elderly patient, and to emphasize that age alone should not be a contra-indication to radial surgery.

### Case Report

This 92-year-old patient was first seen by his family physician for the complaint of hemorrhoids. He stated that for one month he had had rectal pain, bleeding, diarrhea and fecal incontinence. He had noticed something protruding from his anus which felt like a hemorrhoid. His family physician examined him and, suspecting a carcinoma, referred him to the Wallace Wilson Brailsford Clinic, P. A.

The patient had had a prostatectomy in 1968. He also had dyspnea on moderate exertion, ascribed to emphysema. He was alert, ambulatory and lived in a nursing home.

Physical examination revealed an elderly white male, 6'0" in height and 140 pounds in weight. He was very alert and oriented and carried on a good conversation. He had obvious kyphosis and mild tremor, felt to be due to Parkinsonism. His blood pressure was 90/50 and his pulse was 72 and regular. He had decreased hearing and decreased vision with cataracts. Heart sounds were distant. Abdominal examination revealed only a well healed lower midline scar. There was a 2 x 1 x 1 cm nodule visible, protruding from the anus, covered externally by skin and internally by rectal mucosa. The nodule was confluent with a firm, infiltrating lesion in the anal canal, occupying 66 per cent of the anal circumference and extending cephalad 4 cm. It had an ulcerated center. Proctoscopy to 15 cm was normal otherwise.

Biopsy of the lesion revealed well differentiated adenocarcinoma. Hospital evaluation included a hemoglobin of 12.6 grams, hematocrit 38 per cent, with white blood count of 6,800. Urinalysis, serology and SMA – 12 survey were normal. A chest x-ray film revealed flattening of the diaphragms and overdistention of the lung fields. Electrocardiogram showed right bundle branch block. Lung scan revealed bilateral filling defects compatible with either multiple pulmonary emboli or emphysema. Pulmonary function studies included a total lung capacity of 6.30 L, vital capacity of 2.52 L, maximum breathing capacity of 31 L/MIN (60 L/MIN normal for age), and an $FEV^1$ which was 50 per cent of vital capacity.

Because of extensive involvement of the anal sphincter mechanism by the neoplasm, it was thought that fulguration of the tumor could only result in severe anal stenosis and incontinence. Although the patient was a poor operative risk, (mainly because of emphysema), no good alternative to an abdominoperineal resection existed. Therefore, the prospects and the risks of surgery were discussed with the patient and his family.

The patient was first evaluated by a chest medicine consultant, and was placed on a pre-operative regimen of IPPB treatment, Bronchotabs, and Tetracycline. A two-day bowel prep of Kananycin, cathartics, and enemas was given. An abdominoperineal

resection was done with the patient in the lithotomy position, using one operator and one assistant. No evidence of metastases was found and the tumor was easily resected. Pathology report showed an extensive, well differentiated, adenocarcinoma with involvement of the sphincter muscle, and perineural and perivascular involvement. No lymph nodes were involved.

Postoperatively, the patient was treated with continuous volume cycled ventilation support for 24 hours. He was gradually weaned off this over the following 24 hours. After discontinuing ventilatory support, his arterial $pCO_2$ was 29, his arterial $pO_2$ was 44, and his pH was 7.38. The patient had very little dyspnea and was breathing easily. These low values were felt to be secondary to his severe emphysema. Tracheostomy with continuous assisted ventilation was considered, but because of the patient's minimal symptoms, he was treated with oxygen by Venturi Mask only. He was also continued on intermittent positive pressure breathing four times a day, intermittent nasal tracheal suction and encouraged to cough. The blood gas analysis was repeated 24 hours later with no change. After five days, the patient was taking surgical liquids and doing very well so he was transferred out of intensive care unit.

The patient's remaining hospital course was uncomplicated. He was discharged on the 21st hospital day to a convalescent center. He was able to ambulate and feed himself but was unable to change his colostomy bag because of his tremor. His abdominal wound healed primarily and his perineal wound granulated in without difficulty by three months.

## Discussion

Major surgery in the elderly is recognized to carry a higher mortality rate than in the population at large.[2,3,5,6] Palumbo et al,[7] in an excellent article, reported 300 patients of all ages who had resections for carcinoma of the colon and rectum with 11 deaths, for a mortality of 3.7 per cent. There were 26 patients in their series over 70 with three deaths. This produced an operative mortality in this age group of 11.5 per cent. Other authors[1,2] have reported a mortality from abdominoperineal resection in the patient over 70 of 5.1 per cent and 13 per cent.

Elderly patients may live many years after curative abdominoperineal resection. Block and Ender[1] reported 56.6 per cent of their patients over 70 with curative operations for rectal and rectosigmoid carcinomas survived five years, while Mayo and Johnson[3] reported 31.3 per cent of patients over 80 with curative resection for carcinoma of the colon or rectum lived five years.

Old age per se is no contraindication to radical surgery, only the diseases accompanying old age are. Most of the problems seen in the patient over 70 or 80 are encountered in all patients, only less frequently. It must be remembered that elective surgery early may be safer than emergency surgery later. Frequently, pain and tenesumus associated with a low rectal carcinoma must be measured against the increased risk of an abdominoperineal resection, with a chance of complete cure.

The evaluation of rectal problems in the elderly requires the same degree of care and thoroughness as in the young. Frequently, it is more difficult to obtain good sigmoidoscopic and colon x-ray examinations, but the effort will be repaid. Biopsy of suspicious lesions is mandatory. Small superficial polypoid carcinomas below 10 cm often may be treated with fulguration according to the method of Madden.[4] Large infiltrating lesions should be treated by abdominoperineal resection if the patient is a reasonable risk. Patients who are absolutely prohibitive risks or who have extensive local disease may be treated with either fulguration or symptomatic measures. Neither of these is very satisfactory. The presence of small hepatic or pulmonary metastases is not a containdication to abdominoperineal resection. Patients with carcinomas above 10-12 cm are usually amenable to anterior resection, and are not good candidates for fulguration because of the possibility of bowel perforation.

Abdominoperineal resection is technically not difficult for a well trained surgeon. Usually, it is well tolerated. Safeguards to be observed include good anesthesia, careful operative technique, (especially hemostasis, wound closure, colostomy construction), adequate postoperative hydration, minimal sedation, early ambulation, and prophylactic ventilation therapy. Alimentation should not be rushed. Often an anesthesiologist or an internist should be consulted. The intensive care unit should be used frequently because of the ease of monitoring the patient's status

and the more efficient nursing care. Psychological support should not be omitted.

## Summary

A case report of successful abdominoperineal resection for adenocarcinoma of the rectum in a 92-year-old man with severe pulmonary emphysema is reported. Management of rectal carcinoma in the elderly patient is outlined. Most elderly patients tolerate abdominoperineal resections surprisingly well, and age alone should not be considered a contraindication.

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### Mental Patient Denied Punitive Damages in False Imprisonment Suit

A physician who signed a certificate commiting a woman to a mental hospital was held not liable for punitive damages even though he breached his statutory duty by failing to examine the woman within ten days before he signed the instrument. He was also charged with failing to sign the certificate in the presence of a notary. The New Jersey Supreme Court vacated an award of punitive damages because it found that the physician's acts were not motivated by actual malice or wilful and wanton disregard of the patient's rights.

The appellate court had affirmed a verdict holding the physician liable for false imprisonment. The trial court did not award compensatory damages, saying that, at the time of commitment, the patient did need psychiatric care and therefore, she suffered no actual damages. However, the trial court had directed the jury to return a verdict for punitive damages. The jury rendered an award of $5,500, which the appellate court lowered to $5,000 and the state supreme court vacated.

The physician had taken care of the patient from June, 1964, to March, 1965. From March until August, 1965, when he signed the certificate, he was visited by the patient's husband and two of her daughters, who described her conduct. The state supreme court said that her family was justified in fearing that the woman harbored homicidal or suicidal tendencies. The physician testified that from March to August, he received at least 30 telephone calls from one of the patient's daughters who told him the details of her mother's allegedly irrational conduct. According to the court, evidence indicated that she was in dire need of psychiatric treatment at the time of commitment and that her mental condition improved after she received treatment.

At the request of the patient's daughter, the physician signed the certificate accompanying the application for commitment. He did so on condition that a psychiatrist confirm his diagnosis.

The court noted that the record indicated that if the physician had examined the woman within ten days prior to the date of signing the certificate, his conclusions would not have been different from those contained in the signed certificate. Under the circumstances, failure to sign before a notary was a technical omission which did not harm the woman and did not show a disregard for the rights of the patient, the court said.

A patient is not entitled to punitive damages from a physician who, in signing the certificate was motivated solely by his interest in the patient's health and welfare, the court commented.—*Di Giovanni v. Pessel*, 260 A.2d 510 (N.J.Sup.Ct., Jan. 22, 1970)

# President's Pages



It is an honor to have been asked by Dr. Jake Booker to write the President's Page for the February issue of the *Journal*. Rather than address myself to any one single issue I will touch on several items of interest to physicians in South Carolina.

Harry Schwartz, one of the editors of the New York *Times*, in the November 29, 1971 issue write that, contrary to popularly held beliefs, the nation may be heading for a physician surplus by 1980.

He cited the fact that only a few years back there was a lot of flap about the ominous shortage of scientists, engineers, physicists, chemists, and other professionals. Many felt at the time that massive new programs to train these sought-after sepcialists should be started. Well, things change, don't they? Today there are thousands of these highly trained men throughout the United States working in filling stations.

Mr. Schwartz added that a surplus of physicians is quite possible too, and that a great deal depends on what legislation Congress passes in this area.

The South Carolina Pharmaceutical Association is sponsoring a Venereal Disease Awareness Program for the month of February, 1972. The chief purpose of this program is to stimulate the public to become aware that VD is one of the most serious health problems facing the nation and that preventative measures are always preferable to treatment. To this end, the state's pharmacists have gone on record as promoting the open display of prophylactic products by druggists who wish to do so in the interest of public health. Last October the Medical Association co-sponsored a similar program with the State Board of Health.

Both the Greenville and Columbia Medical Societies have held dinners for their respective County Legislative Delegations. I had the pleasure of attending both of these get-togethers and found at each an air of mutual respect and cooperation. Several of the other county societies have plans for similar meetings.

In the 1972 session of the South Carolina Legislature, your State Medical Association will have a first aid station to take care of the ills of our elected officials. Tom Sawyer, from the AMA Office in Atlanta, says that in one of our neighboring states (all of which have these aid stations) a legislator collapsed from a heart attack and was immediately attended to by the physician on duty. The man's life was saved by this quick action.

At the New Orleans Clinical Meeting, Dr. Wesley Hall, President of AMA, restated his plea made in June at the Annual Meeting for calling a constitutional convention to take a "careful and microscopic" look at the structure of the Association. That part of Dr. Hall's speech was referred back to the Council on Long Range Planning and Development. It was assumed by many that Dr. Hall would get his wish and that such a convention would be called. The recent report of this Council, however, rejected Dr. Hall's request stating that the means for changing the structure of the AMA was already in the present Constitution.

A new pamphlet has been developed by this office with assistance from Dr. Joe Waring and the South Carolina Department of Parks, Recreation, and Tourism. It briefly tells those out-of-state physicians who have written to our Physician Placement Service that our state is a fine place to live, practice medicine, and play.

The South Carolina Podiatry Association has initiated a suite against the State Board of Health concerning the classification of drugs podiatrists are permitted to use. The initial hearing was held in Florence in December and the briefs are in; a ruling is expected very soon.

The board of directors of the South Carolina Medical Political Action Committee (SOCPAC) met on January 9th to discuss plans for the upcoming year. Senator Strom Thurmond will be asked to be guest speaker at the SOCPAC luncheon at the May Annual Meeting of the State Association. Present membership in this organization numbers 269 physicians and wives.

Dr. Robert Goldie, Chairman of the Association's Medicine and Religion Committee, has plans to combine his group with the Alcohol and Drug Addiction Committee to sponsor a program at the Annual Meeting. As you will recall, last year's program on the medical and religious aspects of abortion was highly successful.

It's going to be a good year for medicine in South Carolina — count on it!

Richard G. Pugh, Staff
South Carolina Medical Association

# Editorial

**Commission on Higher Education**

*This is the summary of the report of the special medical committee which is a sub-committee of the Commission on Higher Education. The Commission on Higher Education endorsed this report and submitted it to the Governor and to the Legislature in December of 1971.*

**Summary**

For over three months this Special Medical Education Committee has diligently studied the problem assigned to it (to advise the Commission as to the educational structure that should be developed to meet South Carolina's requirements for physicians. The need for a second medical school should be considered as well as any other aspects of the training of physicians deemed appropriate).

The Committee is in agreement that South Carolina should strive to attain as its goal the national median of 130 doctors per 100,000 population which the Carnegie Commission has projected for the year 1975.

I. The Committee agrees that it is desirable that this goal be reached as soon as possible but there appears to be no unanimous agreement that this can be accomplished at the Medical University of South Carolina alone.

II. There is agreement that with or without a second medical school there is presently an urgent need to immediately provide training and teaching facilities at Columbia, Greenville and Spartanburg for undergraduate and graduate students. This is necessary to meet needs generated by recent increases in entering class size at MUSC.

III. The Committee is in agreement that the first step must be the prompt establishment of a strong residency training program in these cities supported by a capable, full-time faculty which must be a part of the MUSC faculty and financially supported by the State of South Carolina.

Students should not be sent from the parent institution to a Regional Health Education Center until the Center has demonstrated



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**Actions** – Ovulen and Demulen act to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Ovulen and Demulen depress the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

**Special note** – Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

**Indication** – Ovulen and Demulen are indicated for oral contraception.

**Contraindications** – Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

**Warnings** – The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality conducted in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis, pulmonary embolism, and cerebral thrombosis and embolism and the use of oral contraceptives. There have been three principal studies in Britain[1-3] leading to this conclusion, and one[4] in this country. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll[3] was about sevenfold, while Sartwell and associates[4] in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as nonusers. The American study also indicated that the risk did not persist after discontinuation of administration and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Ovulen and Demulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

**Precautions** – The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen or Demulen. Therefore, if such tests are abnormal in a patient taking Ovulen or Demulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations preexisting uterine fibromyomas may increase in size. Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Ovulen or Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen or Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen or Demulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen or Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

**Adverse reactions observed in patients receiving oral contraceptives** – A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine and decrease in $T^3$ uptake values; metyrapone test and pregnanediol determination.

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**Indication** – Enovid-E is indicated for oral contraception.

The *Special Note, Contraindications, Warnings, Precautions* and *Adverse Reactions* listed above for Ovulen and Demulen are applicable to Enovid-E and should be observed when prescribing Enovid-E.

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the capability to offer an acceptable program. The Regional Center program must be equally as good in every respect as that offered at MUSC and under its direct control and continuing supervision.

Such programs will provide presently needed educational facilities for undergraduate students and resident physicians. In addition, they will substantially form the nucleus of Health Education Centers as suggested by the Carnegie Commission to upgrade the quality of medical care in the regions served. These Centers should also train para-medical personnel such as nurses, mid-wives, laboratory and X-ray technicians as well as physicians' assistants, and would logically serve as major referral centers for their regions. All should be tide into a statewide medical network.

IV. The Committee, however, is not at this time in full agreement that such a system will in itself provide enough educational facilities for the sharp increase in the number of physicians in South Carolina that appears to be necessary to reach the desired goal. It is an accepted standard that there is a need for approximately 8 beds per entering medical student in a medical school. It appears that MUSC at this time does not have the number of beds recommended to educate the class of 1975 when it enters its clinical training program no later than September of 1973. It is for this reason, if no others were needed, that the Committee recommends the above stated program.

Until definite and satisfactory long-term agreements are confirmed between MUSC and Roper and St. Francis Hospitals in Charleston a majority of the Committee recommends that the number of students accepted in the first year classes at MUSC be limited to the ability of MUSC to provide the necessary number of teaching beds under its control in Charleston and in the Regional Health Education Centers.

At the present time this number cannot be determined with any degree of accuracy. It appears that it will take at least several months before MUSC can complete the necessary agreements with all hospitals involved. It is only after the number of teaching beds are firmly agreed to that a realistic estimate of the maximum number of entering students can be made. After this has been done, a reasonable answer can be provided as to the need of a second medical school.

If after implementation of these recommended programs it appears that MUSC and the Regional Health Education Centers cannot provide the state with a sufficient number of graduates to reach the goal, then it is obvious that a second medical school as a part of the University of South Carolina will be necessary. If by the fiscal year beginning July 1, 1973, this proves to be the case, then immediate authorization should be provided for planning this new facility if federal funds are available for the major portion of the construction costs. The majority of the Committee believes this additional year should be given to MUSC to bring essential plans and programs to fruition and to demonstrate that it can provide the dynamic leadership in medical education which the state requires, assuming adequate financial support from state government. A minority of the Committee believes a second medical school should be started without delay.

V. Under any circumstances it would appear wise for the state to provide a medical education supervisory mechanism ideally under the Commission on Higher Education to ensure that monies appropriated for all medical education are wisely spent and to prevent costly competition for scarce tax dollars.

VI. An appropriate state agency should immediately be given responsibility to evaluate and analyze the numbers, kinds, and distribution of doctors necessary to the well-being of the people of South Carolina.

This agency should create an indepth databank of doctors currently practicing and doctors currently in residencies. The state should make every effort to retain these residents in the state of South Carolina.

This agency should also study the new developments in delivery of health services and should continually relate these activities to their accomplishments in meeting the needs of the people of South Carolina for health care services.

VII. This Committee is very aware of the fact that there are many other educational, social and governmental needs that are competing for what appears to be limited tax resources. It is true, however, that a body politic can find the resources to accomplish those goals that its citizens are convinced are necessary for its survival and well being.

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# PART III

# ABSTRACT OF THE MINUTES

# HOUSE OF DELEGATES

# SOUTH CAROLINA MEDICAL ASSOCIATION

# ONE HUNDRED TWENTY-THIRD ANNUAL SESSION

## CONVENTION CENTER

**May 10, 12, 1971** **Myrtle Beach, S. C.**

**(Blue Cross-Blue Shield discussion continues.)**

I recognize Dr. Joe Cain, who would like to discuss this motion.

*Dr. J. P. Cain, Jr., Mullins:* At this time I just want a clarification. Columbia's Resolution No. 4, No. 5 and the Charleston and Colleton County's Resolutions are the ones to which it has been given intention to table — is that correct?

*THE CHAIR:* That's correct.

*Dr. Cain (continuing): Now, the others* — Columbia's No. 1 and No. 2 will be discussed. No. 3 (a Columbia Resolution) is the key to the tabling of the other four — is that correct?

*THE CHAIR:* That's right.

*Dr. Cain (continuing):* Columbia's No. 6— now what is that?

*Dr. Louie B. Jenkins (Chm., Ref Committee):* Does the Columbia Medical Society have a copy of its Resolutions as numbered? I regret that I didn't bring mine with me.

Number 6 was 'that the House of Delegates instruct the Board of Directors of Blue Shield that if it is deemed desirable to sell any other kind of insurance that Blue Shield be the issuing company or set it out to competitive bids to companies who have no interlocking and overlapping interests or personnel with Blue Cross or Blue Shield'.

*Dr. Cain (continuing):* Mr. President, it occurs to me now that there are some of the delegates who may want further clarification and I would ask you, if possible, to read these as they are now grouped so that we will know exactly which Resolutions we are talking about.

*Dr. Jenkins: (Reading Resolutions)* The 1st Resolution from the Columbia Medical Society 'that the Society go on record as approving and seeking appropriate action through the South Carolina Medical Association and through the Legislature of South Carolina to require health and hospital insurance companies to provide for outpatient benefits for procedures which are covered for inpatients! Is that clear?

Number 2 — 'Be It Resolved, that any information other than confidential patient information should be made readily available to members of the Board of Directors of Blue Shield or members of Council of the South Carolina Medical Association upon request'. Is that clear?

Number 3 — 'Be It Resolved, that the House of Delegates direct the Board of Directors to initiate a complete audit of Blue Shield of South Carolina by a management consultant,

preferably one specializing in health and hospital insurance'.

Number 6 – 'Be It Resolved, that the House of Delegates instruct the Board of Directors of Blue Shield that if it is deemed desirable to sell any other kind of insurance that Blue Shield be the issuing company or set it out to competitive bids to companies who have no interlocking and overlapping interests or personnel with Blue Cross or Blue Shield'. Is that clear?

Number 7 – 'Be It Resolved, that the A. M. A.'s Second Edition Current Procedural Terminology (CPT) with its flexible five digit system should be endorsed by the S. C. M. A. and adopted by Blue Shield'.

(*A doctor from the floor*): Is there a motion on the floor now?

*THE CHAIR:* There is a main motion in progress.

*Dr. Jenkins (continuing):* The last Resolution requested to be re-read was a Resolution of the Colleton County Medical Society 'that Blue Shield of South Carolina sever its relation with the Medicare Program at the end of this fiscal year'.

*Dr. Tucker Weston:* That was not in the list – the one on the Fee Schedule, Dr Stone's Committee.

*Dr. Jenkins:* Thank you, excuse me. The last one requested to be read that 'Dr. Halsted Stone, a member of the Committee to negotiate a fee service schedule with Blue Shield, reported that this committee had not adopted a final schedule and asked that this committee be continued'.

*THE CHAIR:* The motion is that we consider the Reference Committee Report in this order. I recognize Dr. Atwill.

*Dr. J. Harvey Atwill, Orangeburg:* Mr. President and fellow delegates, the Board of Directors of Blue Shield has spent a great deal of time investigating the various charges. The Reference Committee has done, I think, an admirable job in going into this in much detail over the period of the last two or three days. They have given us, I think, a reasonable Report and I don't think that it is necessary that we consider it in any particular order I feel that the best thing to do would be to consider the Report first in toto and see if this House might adopt the Report of the Reference Committee. For that reason, I move we table the previous motion.

*THE CHAIR:* The motion is to table. Is there a second to that motion?

*Dr. Samuel Elmore, Spartanburg:* I second it.

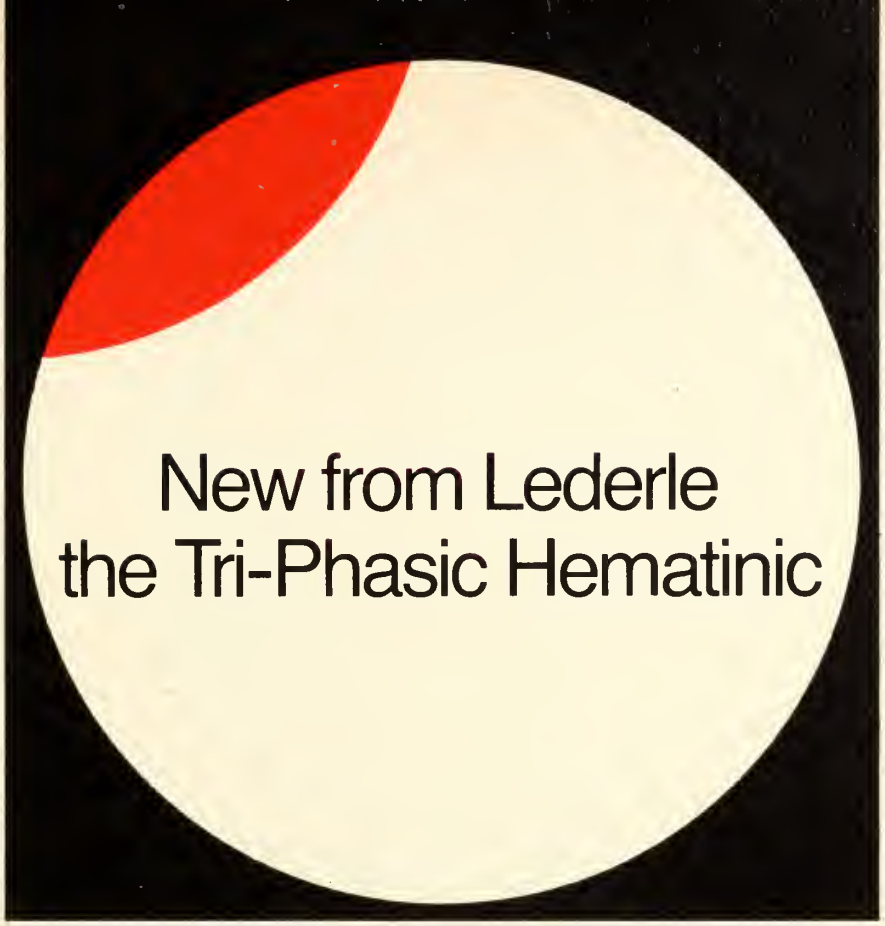
*THE CHAIR:* The motion is to table. I will call for the question. Those in favor of tabling the motion will please stand. (The standing vote was taken and the motion to table defeated.)

The motion to table has been defeated.

The motion is to consider this in the order that was proposed in the motion. We have had discussion and if there are no further questions, I will ask for a vote. Those in favor of considering this Report in the order suggested in the motion by Dr. Tucker Weston will please stand. (A standing vote was taken.) The Chair declares that the motion has been passed and the Report will be considered in that order. Now, in order to be very systematic about it, I would like for Dr. Jenkins to read the first article and we will vote on it. We will go on down thru the 1st, 2nd, 3rd, 6th, 7th and 10th. Anyone will have the right to discuss any one of these during that time. It will be limited as we indicate by the By-Laws and we will vote on these #1, 2, 3, 6, 7 and 10 as one motion, unless I hear an objection.

*Dr. Jenkins (continuing) (Reading from Report):*

1. "The Columbia Medical Society's resolution 'seeking appropriate action through the S. C. Medical Association and through the Legislature of South Carolina to require health and hospital insurance companies to provide for outpatient benefits for procedures which are covered for inpatients' was approved by the Committee. I move the adoption of the resolution, Mr. President."




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*THE CHAIR:* Any discussion on this item?

(The motion was seconded, there was no discussion, the vote was taken and it was passed.)

2. "The Committee approved the resolution of the Columbia Medical Society 'that any information other than confidential patient information should be made readily available to members of the Board of Directors of Blue Shield or members of Council of the S. C. Medical Association upon request'. I move the adoption of the Resolution, Mr. President."

(The motion was seconded, there was no discussion, the vote was taken and the Resolution passed.)

3 "The Columbia Medical Society's Resolution 'that the House of Delegates direct the Board of Directors to initiate a complete audit of Blue Shield of South Carolina by a management consultant, preferably one specializing in health and hospital insurance' was considered by the Committee. Despite the argument that the numerous audits that Blue Shield is subjected to by various governmental agencies do not include operating procedures, the Committee could not determine sufficient reasons to direct an audit. The Committee recommends it should be left to the Board of Directors to decide if an audit is indicated, in view of the objections raised to the audits now conducted. I move the adoption of the Committee's recommendation, Mr. President."

(This motion was seconded.)

*THE CHAIR:* This is a move to adopt which is in opposition to the Resolution of the Columbia Medical Society, so the move is to adopt.

*Dr. Halsted Stone (recognized):* I move for a secret ballot.

*THE CHAIR:* This is a division of the House and the member has the right to move for a secret ballot. Is there a second to that motion?

(The motion was seconded, and the vote was passed.)

The Chair will move that we will have a secret ballot which will be a written ballot and I will appoint 2 members to take the ballot.

Dr McIver, the motion to divide the House, is it debatable?

*Dr. McIver:* No.

*THE CHAIR:* This motion, our parliamentarian indicated, is not debatable; therefore, we will take a vote. Jack, will you give us something to vote on?

*Dr. John C. Hawk (recognized):* I rise to a point of order. Is it your intention to take this vote without discussion of the motion?

*THE CHAIR:* The vote is to a division of the House and by secret ballot on this specific motion and then we will discuss the motion after we take the vote on the division.

*Dr. Forde A. McIver:* May I—

*THE CHAIR:* I'm sorry, I'm all wrong. We did vote and we will have a secret ballot. The House voted to have a secret ballot, so, gentlemen, we will debate the point — the main motion — and I will recognize Dr. Tucker Weston for his discussion.

*Dr C. Tucker Weston, Columbia:* I would like to move a substitute motion concerning Item #3 of the Resolutions of the Columbia Medical Society. I move that this motion be substituted for the motion of the Committee, as follows:

> Be It Resolved, that the House of Delegates direct the Board of Directors to initiate a complete audit of Blue Shield of South Carolina by a management consultant, preferably one specializing in health and hospital insurance, and that this audit be conducted not only one the finances of the organization but on the managerial and insurance aspects of the organization, particularly in its relationship to other companies which have been mentioned in various ways, such as Colonial Data Systems, Columbia KeyPunch, Allied Electronics, Alpine Agency, Companion Life or any other company that might be inovlved.

*THE CHAIR:* This is a motion to substitute by amendment. This is now open for discussion.

*Dr. J. P. Cain, Jr. (Recognized):* Mr President and members of the House of Delegates, I think at this time all of you people have surmised that something is going on. You may not know exactly what it is. (Laughter) I think that before we take a vote on anything now that certainly a few words of explanation are in order. Am I in order, Mr. President?

*THE CHAIR:* You are discussing the motion to amend by substitution and that motion is the motion favoring the Columbia Medical Society's original motion.

*Dr. Cain (continuing):* The Resolution which has just been presented by Dr. Weston as a substitute motion, I would like to second and tell you that I am in favor of that motion for the following reason — that we have a compromise worked out that if an audit is directed along the lines which Dr. Weston has indicated that there will be a motion by the opposition to table any further motion that comes up on this subject today. No matter how good a Report we got from the Reference Committee, at this time we can expect a bitter floor fight if those come before us today, and we will not end anything because even if we pass it, these people may bring it up from year to year. Now I have no guarantee that they will not continue to bring it up from year to year but we do have the assurance of responsible people in our Association that if we have a fair and satisfactory audit that we will not be bothered with these petty references every year. On the other hand, if we have the audit and the audit appears to us not to be satisfactory, I am certain that the Board of Directors will not want any of their policies to be defended and there will be no question there. So that's what's going on and if we can have the assurance that those responsible people will use their influence to keep down any sort of thing like this in the future if we have a satisfactory audit — and by a satisfactory audit, I do not mean that the audit be satisfactory — I mean that the results of the audit be satisfactory, I think that this is a good motion and I am behind it because I hope that the other motions that are going to come up will follow through just as I have just stated. I think that we should pass this and I think that we should ask for the complete audit just as has been outlined because unless we do and put everybody's mind at rest, we will not have solved anything. Thank you. (Applause)

*Dr. William L. Perry, Chesterfield (Recognized):* I would like to endorse what Dr. Cain has said. He's telling it like it is and I would like to urge this House to vote for the Substitute Motion.

*Dr. John C. Hawk, Charleston (Recognized):* I think that Dr. Cain's words are very timely and I think the Motion is timely. I wish to speak to the question of time, however, as to whether there is any specification in the Motion or any consideration of the elapse of time to be allowed before we will have the results of such an audit. I realize that audits take time. I don't know how long it would take but I would assume that this would be done as expeditiously as possible and I would like to ask the Chair or if it would be proper to ask the proposer of the Resolution whether he has any time interval under consideration.

*THE CHAIR:* I would accept that — if he has a proposal, I will accept that as a part of the Motion to amend by substitution, if he wishes to state that.

*Dr. Tucker Weston:* I would agree with the term "as expeditiously as possible". I would add that to my Motion that this be accomplished as expeditiously as possible.

*THE CHAIR:* This the Chair will rule is part of the Motion to substitute by amendment. Dr. McIver, do you have any objection? (He had none.) Are there further questions for clarification or further debate?

*Dr. Andrew H. Hursey, Hartsville (Recognized):* I would like to ask the Chair if it would spell out how we get the results of this audit. Will the House of Delegates get a report or copy of this report and I wonder if

the Chair would ask Dr. Weston if this is an all-inclusive motion so that this audit will be conducted to the companies that he mentioned and so that it would include any and all companies that Blue Cross-Blue Shield may have been doing business with or currently is doing business with. We may not know all the names of the companies and there may not have been all of them mentioned.

*Dr. Tucker Weston:* I added on to the end—"or any other companies that may be involved". I may not know the names either. My other intention was after this was considered was to make a motion that the House of Delegates sitting as the corporate body of Blue Shield would recess and be called again on call at the time these facts were available so that there would be a full disclosure to the whole House Of Delegates.

*Dr. Richard C. Slocum, Columbia:* I endorse the motion but I think "as expeditiously as possible" is a very loose sort of timetable. We ought to put a date or something.

*THE CHAIR:* This would be an Amendment to an Amendment — if you will propose that date, then it can be considered and we will vote on it.

*Dr. Slocum (continuing):* Six (6) months.

*THE CHAIR:* The amendment to substitute has been amended to put a time date of (6) months. Is there a second to that amendment? (There was.) (It was seconded by Dr. Harry Metropol.) Is there any questions or discussion with reference to that date?

*Dr. J. P. Cain, Jr., Mullins (Recognized):* The time limit of six (6) months may or may not be long enough. I don't know what you gentlemen think you have just asked for but you haven't just asked for any little piddling stuff. When the Insurance Department comes into our little insurance company to make an audit, they sit with us for 6 to 8 weeks and when we come into something with the magnitude of Blue Cross and Blue Shield by an outside firm who is doing an audit not only on the finances but also on the business management and also in relationship with all sort of other corporations; incidentally, it should be called to your attention that we can't audit these other corporations as much as we would like to because they don't belong to us but we can audit our relationship with them. I think this should be clearly understood because we are asking for something that we just can't do. I think that to put a time limit of six (6) months is not right because it may not be ready in 6 months; in the first place, there is going to be some time elapsed in selecting the firm. I am sure that everyone wants a firm that is above reproach. If there is going to be any whitewashing done, we want it to be done by a first-class whitewasher. (Laughter) You don't want any piddling whitewashing done. I might add, parenthetically, that I know that the Blue Cross Board has already considered such an audit which will do the same thing we are talking about and they have considered on the advice of Mr. John Lumpkin, some very prominent firm in Charlotte who specializes in this sort of work. I am not telling you that that is the one who will be doing the audit but I think that a firm of this caliber is what we are looking for and that the intent of the management should be to get proposals from different auditing firms and then have these proposals passed on by the Board of Directors to select the best person. This was not a motion. I am speaking about the time limits that have been proposed. I think that six months is not right and I think that "as expeditiously as possible" is the best we can do. I don't think we should go out on a limb.

*THE CHAIR:* Is there any other question concerning this amendment to amend with the time limit of 6 months?

*Dr. Samuel Elmore, Spartanburg:* I would like to ask who is going to pay for this?

*THE CHAIR:* Would you ask that to the person that made the amendment? Do you have a proposal to clarify the motion?

*Dr. C. Tucker Weston, Columbia:* This would be an expense of the Blue Shield Corporation through its Board of Directors.

*THE CHAIR:* Are there further questions? Are you ready for the question? The amend-

ment – we will vote on the amendment for the 6 months interval for the time of the audit.

(The vote was taken and the motion to put the 6 months time limit on the audit was defeated.)

Now, we are back to place before you the amendment to substitute – the amendment to substitute, in sense, is the motion to audit and if you are ready and will prepare your votes, I am going to ask the Credentials Committee to collect the ballots – Dr. Malcolm Marion, Dr. Lawton Salley and Dr. Royce Blackmon, are they in the House? Will you collect the ballots and count them? Someone has asked for a clarification on the vote. Those who vote "yes" will be voting for the amendment to audit. "Yes" means to audit – "No" means not to audit.

For clarification, the House of Delegates are advisory to the eorporate body. When the corporate body meets, the action of the House of Delegates will be cited at the corporate meeting.

While we are waiting for the count, I thought we might go on to the next item on the recommendations of the Reference Committee. We will not go to the last ones that Dr. Tucker Weston made the motion that we table. We will get the results of this before we do but there are about three other things that can be passed on rather rapidly and I will ask the Reference Committee to give us their Report on those.

*Dr. Louie B. Jenkins, Chm., Ref. Committee:* "The resolution of the Columbia Medical Soeiety 'that the House of Delegates instruct the Board of Directors of Blue Shield that if it is deemed desirable to sell any other kind of insurance, that Blue Shield be the issuing company or set it out to competitive bids to companies who have no interlocking or overlapping interests or personnel with Blue Cross or Blue Shield' was approved in prineiple by the Committee. The Committee was of the opinion that the Board of Directors of Blue Shield should not have its hands tied if other arrangements are to the better advantage of Blue Shield. I move the endorsement of the resolution in principle only, Mr. President."

(The motion was seconded, there was no discussion, the vote was taken and it was passed.)

*Dr. Jenkins (continuing):* Columbia's No. 7 – "The Columbia Medical Society's resolution 'that the A.M.A.'s Second Edition *Current Procedural Terminology* (CPT) with its flexible five-digit system should be endorsed by the S. C. Medical Association and adopted by Blue Shield' was deemed by the Committee to be desirable, but needlessly expensive and impractical at the present. The Committee recommends that the resolution be laid on the table until a uniform coding system has been achieved. I move the adoption of the judgment of the Committee, Mr. President."

(The motion was seconded, there was no discussion, the vote was taken and it was passed.)

*Dr. Jenkins (continuing):* "The portion of Dr. Hope's Report of Council that 'Dr. Halsted Stone, a member of the Committee to negotiate a fee service schedule with Blue Shield, reported that this committee had not adopted a final schedule and asked that this eommittee be continued' was discussed by the Committee. The Committee recommends that the committee be continued and be urged to bring its charge to a conclusion in all haste. I move the adoption of the recommendation of the Committee, Mr. President."

(The motion was seconded, there was no discussion, the vote was taken and it was passed.)

*THE CHAIR:* Is the count available on the amendment? It would be impossible to go on and entertain the other parts of the Report that had to do with tabling until we know the results of this.

I have an unofficial report that there is an overwhelming vote to audit, so it will be passed and we will give you the count in a moment. This motion that we voted on was an amendment to substitute. Now we vote on main motion which was the adoption of the



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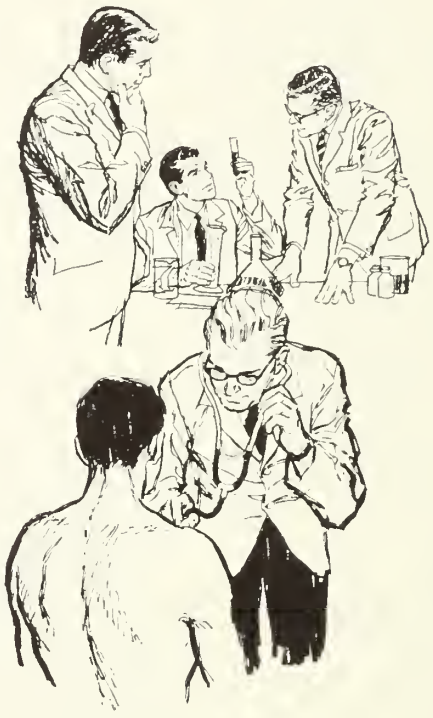
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Report of the Reference Committee. I think this should be read again. The reason for this is, maybe, there are people in here who don't want either one. Maybe they do not want the Report of the Reference Committee and, maybe, they do not want this Report; but they had to take a choice, so it will be necessary to vote on the Main Motion which is the motion to accept or reject the motion by the Reference Committee,—

*Dr. Forde A. McIver (Recognized):* As amended, so that your vote, in essence, at this moment is the same thing you just voted on. If you are in favor of the substitute amendment, an affirmative vote re-endorses that substitution and does not indicate that you don't want either one because you could not want either one — so your vote now is re-affirm the motion as a whole as substituted. So the favorable vote now will sustain the substitute motion.

*THE CHAIR:* Is there a call for division on this vote? All right, now the motion is for or against the Main Motion as amended. Now my interpretation is that a vote in the affirmative is for an audit.

(The vote was taken and the Main Motion as amended (to audit) was passed.)

*THE CHAIR:* Now the next thing is the entertainment of the matter to table.

*Dr. Tucker Weston:* In view of what the vote has just been, I move that Resolution No. 4 and Resolution No. 5 of the Columbia Medical Society and the Resolution of the Charleston County Medical Society to divorce the medical association from Blue Shield and the Resolution of the Colleton County Medical Society be tabled and further move that this House of Delegates will be — we will ask the Corporation of Blue Shield to recess on call and to have a full explanation when the audit is obtained.

*THE CHAIR:* Will you come to the microphone? The discussion is on the Motion to table.

*Doctor from the floor:* I do not wish to discuss it. I understand the motion to table is not subject to discussion but my point is this. I think that we are tabling not only the Resolutions of the Columbia Medical Society but the Report of the Reference Committee as related to those Resolutions that has just been brought in.

*THE CHAIR:* That is true.

*Dr. Herbert M. Black (Recognized):* Point of Order, Mr. President, he has just added to that motion to table, doesn't that make it a Main Motion instead of just a motion to table or not to table?

*THE CHAIR:* Parliamentarian, would you like to answer that?

*Dr. Forde McIver:* If he specifies a specific time or any other qualification other than simply to table, then the motion to table is debatable.

*THE CHAIR:* There were two other elements and will you restate those, Tucker.

*Dr. Tucker Weston:* I will withdraw the two elements and just make the motion to table.

*THE CHAIR:* The motion to table will be voted on without further debate unless there is some—

*Dr. Thomas Parker:* Point of Order, Mr. President. Mr. President, the question has been raised that we don't know how long the audit is going to take. It may be 3 months, may be 6 months or maybe a year. I would like to ask to whom we are tabling. If it took over a year, then we would have a new House of Delegates and a new Board; so is it proper or would the parliamentarian rule that we could specify that we would be tabling it to the House of Delegates and the Board that is legal at that time.

*Dr. Forde McIver:* This question was asked earlier. I have not thought of any way to guarantee by previous motions that it would be reported during the service of this particular House. I would point out, however, that when tabled, a motion may be brought back on the floor at any time after any other business has been conducted. I think that your only recourse then is to stay on top of this and bring this motion back to the floor at some future

time – even at a called meeting if you feel that it is necessary. I don't think there is any other solution.

*Dr. John Hawk, Charleston:* Mr. President, Point of Information, which, I think, is pertinent. We had a discussion – the point of information I request is whether this House has taken action on that portion of the Council's Report which sets up a Foundation. Because if this is true and we have, which may be true because of the first action in regard to the Report of Council, then we are in a position of having set up a Foundation which may make it advisable for us to reconsider our relationship with Blue Shield and I don't believe it should be tabled immediately and I would like that information. Have we voted on that?

*THE CHAIR:* We have not voted on it. It is on the agenda to be voted on at a later time. The Motion to Table is before you.

(The vote was taken, and the Motion to table was passed.)

*THE CHAIR:* The rest of the Report is tabled. Dr. Jenkins, do you have any other Motion?

*Dr. Louie B. Jenkins, Chm., Ref. Comm.:* Mr. President, I move the adoption of the Committee's report as amended en toto.

(The motion was seconded.)

*Dr. J. P. Cain, Jr. (Recognized): My question* has to do with whether or not we are through with this Report. My understanding is that we have tabled several portions which will be brought up at a later date and I don't know that –

*THE CHAIR:* Approved as amended and the Motion to table would be an amendment to the Main Motion.

*Dr. Cain (continuing):* I understand that but that is not discharging the Committee who will be called upon to present these same Resolutions when the time comes back.

*THE CHAIR:* I would rule that this would have to be a motion to take from the table and anyone in this House of Delegates would have that prerogative.

(There was no motion to that effect.)

(The Committee's Report was adopted as amended.)

I would like to personally thank Dr. Jenkins and his Committee for this yeoman's work and for the good work that has been done in this House of Delegates. (Count to audit–103 vs. 2)

Now, I would like to call on the Reference Committee on Miscellaneous Business, Dr. Witherspoon.

*Dr. Samuel M. Witherspoon, Chairman:* Mr. President and Delegates, the Committee on Miscellaneous Business was referred 12 items for consideration.

First, the Resolution from Darlington County Medical Society (Res. #15) "Be it Resolved by the House of Delegates of the South Carolina Medical Association that the Department of Public Welfare be requested to alter its regulations so as to provide that Medicaid patients in nursing homes in South Carolina be permitted to visit in their homes with their families and to leave the institutions where they are confined for brief periods of time when they are physically and mentally able to do so". Your Committee recommends the adoption of said Resolution, and I so move, Mr. President.

(The motion was seconded, the vote was taken and the motion passed.)

*Dr. Witherspoon (continuing):* A Resolution from Darlington County Medical Society (Res. #14): "Be It Resolved that the House of Delegates of the South Carolina Medical Association urge the Department of Public Welfare to amend its regulations concerning the admitting of Medicaid patients for nursing home care, so that whether a patient shall receive skilled nursing care, intermediate care or domiciliary care shall be decided by the physician of each patient, subject only to the by the local utilization review committees". Your Committee recommends the adoption of said Resolution, and I so move, Mr. President.

(The motion was seconded, the vote was taken and the motion passed.)



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*Dr. Witherspoon (continuing):* That portion of the Report of the Chairman of Council pertaining to the Permanent Home of the South Carolina Medical Association – is it necessary that I write that, Mr. President?

*THE CHAIR:* Will you cite what it is again?

*Dr. Witherspoon:* That portion of the Report of the Chairman of Council pertaining to the Permanent Home of the South Carolina Medical Association.

*THE CHAIR:* You could give us the sense of it, please.

*Dr. Witherspoon (continuing):* This is a quote from Dr. Hope's presentation. "At the July meeting of Council, a Statewide Committee was authorized to negotiate with the Columbia Medical Society in exploring the feasibility and location of a permanent home in Columbia. (Columbia Medical Society had offered to pool their permanent home fund with the South Carolina Medical Association to have one home.) It had also been decided that the South Carolina Medical Association State Office would be moved from Florence to Columbia by 1975. This Permanent Home Committee has been working and I hope you will have some further report at this meeting." Your Committee recommends acceptance of this Report and approval of action therein stated, and I so move, Mr. President.

(The Motion was seconded, the vote was taken and the Motion passed.)

*Dr. Witherspoon (continuing):* The Committee considered the Reports of the various committees as were published in the Journal of the South Carolina Medical Association and I would like to take all of these together, if I may.

The Report of the Committee on Medical Aspects of Sports;

The Report of the Committee on Mental Retardation;

Report of the Medical Advisory Committee to the South Carolina Vocational Rehabilitation Department;

Report of the Advisory Committee to the Department of Public Welfare;

Report of the Committee on Eye Bank;

Report of the Advisory Committee to Crippled Children's Society;

Report of the Committee on Medicine and Religion;

and

Report of the Committee on Medical Services.

Your Committee recommends the following:

(1) Acceptance of these Reports as submitted;

(2) The continuation of the Committee on Medical Aspects of Sports; and

(3) The encouragement of increased activity on the part of the Committee on Mental Retardation; and I so move.

(This motion was seconded, there was no discussion and it was passed.)

*Dr. Witherspoon (continuing):* And the last item was the Report of the State Board of Medical Examiners of South Carolina. Your Committee recommends acceptance of this Report as submitted; and I so move.

(This motion was seconded, there was no discussion and it was passed.)

*Dr. Witherspoon (continuing):* The Committee further recommends that the House of Delegates of the South Carolina Medical Association express its appreciation for the work done during the past year by Council, the State Board of Medical Examiners and the Committees above listed.

Respectfully submitted,
Dr. Samuel M. Witherspoon, Chairman
Dr. James L. Duncan
Dr. James G. Tippins
Dr. Louis P. Jervey
Dr. Emory C. Kinder

And I would like to move that the Report of this Committee be adopted in toto.

(This motion was seconded, there was no discussion and it was passed.)

*THE CHAIR:* Thank you, Dr. Witherspoon. (Applause)

*THE CHAIR:* At this time, I would like to say a hearty thank you to all of these people who have been on the Reference Committees and to the chairmen for a work well done and for guiding us in this business.

I would like to call on Dr. Harold Hope, who will make some decision or some Motion with reference to Foundations. Dr. Hope.

*Dr. Harold P. Hope (Chairman of Council):* Mr. President, at a special meeting of the Council on May 2nd, the Council endorsed a medical foundation for the South Carolina Medical Association and asked the Chairman of Council to present the proposal to the House of Delegates at a special meeting on Sunday night, May 9th, and hear the recommendations of Council concerning Foundations. This was done; and, now, as Chairman of the Council, I make a Motion that the House of Delegates accept the recommendation of Council to form a Foundation for the South Carolina Medical Association.

*THE CHAIR:* You have heard Dr. Hope's Motion to form a Foundation for this purpose – and do I hear a second?

(Motion was seconded from the floor.) Any point or discussion or questions?

*Dr. Guy C. Heyl, Jr., Aiken (Recognized):* Mr. President, I was not at the meeting Sunday night and, perhaps, there are many others here who were not. I think it would be in order that we have some explanation as to what is involved in this matter.

*THE CHAIR:* Thank you. Dr. Hope, would you care to enlarge on this?

*Dr. Hope:* I appreciate the remarks of the gentleman but that would be a rather formidable task to tell you about the formation of a council which would be very intricate and would require a great deal of time. I'm afraid that this would be impossible in the time that I am allotted to do this because we spent two hours Sunday night trying to do this. I do feel like every delegate here should have this information and if this House of Delegates adopt this, I am sure that Council will be involved in getting this and, certainly, if I'm involved with Council, will be glad to send detailed information to any member who wasn't here.

*Dr. Forde A. McIver, Charleston (Recognized):* Is it true that passage of this Motion at this moment would simply set up the mechanism for a Foundation which would be then capable of functioning but that the actual functioning of a Foundation to serve patients would not be involved in this particular Motion, is that correct?

*Dr. Hope:* Dr. McIver, it has been our understanding – those of us who have studied this in some detail – that it takes some time as long as three years to completely set up a Foundation. It was in my report somewhere that I recommended that this be done very cautiously with Council passing on every step of it and reporting to the House of Delegates even if we had to call another meeting of the House of Delegates.

*A doctor from the floor:* Call for the question.

*THE CHAIR:* The Motion is to call the question. Is there a second to the Call? (This was seconded by several.)

(The vote was taken and passed.) The Question – those in favor of the concept and the mechanism of forming a Foundation being put underway by this House of Delegates would indicate by saying "aye" – contrary minded "no". (There were a good many "nos" heard.) Let's have a show of hands.

(The vote was taken by a show of hands, and passed.)

The vote is favorable and the Foundation concept is approved.

At this time, unless there is other business that had to be passed over for reasons unknown to the Chair, we will go into the area of election of officers.

*Dr. J. P. Cain, Jr., Mullins (Recognized):* Point of information before we enter into this – since we are electing a Speaker and a Vice-Speaker and I am not sure about all the politics that are going to enter into this but I



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nces: **1.** Allen, A. C.: *The Skin, A Clinicopathological Treatise*, ed. 2, New York, & Stratton, 1967, p. 842. **2.** Dillaha, C. J.; Jansen, G. T, and Honeycutt, W. M.: tment of Actinic Keratoses with Topical Fluorouracil," in Waisman, M. (ed.): *naceutical Therapeutics in Dermatology*, Springfield, Ill., Charles C Thomas, 1968, **3.** Belisario, J. C.: *Cutis, 6*:293, 1970. **4.** Sams, W. M.: *Arch. Derm., 97*:14, 1968. a on file, Hoffmann-La Roche Inc., Nutley, New Jersey. **6.** Williams, A. C., and E.: *Cancer, 25*:450, 1970.

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Just one minute, I see — is he coming? Dr. Parker is not immediately available and we will greet him when he is available.

We are now ready to receive the nomination for Vice-President and I recognize Dr. Tucker Weston.

*Dr. Tucker Weston, Columbia (Recognized):* Mr. President, I would like to place in nomination the name of our parliamentarian, Dr. Forde A. McIver, of Charleston. He is a graduate of our Medical College in 1942. He served his internship and residency in University of Wisconsin from 1942 to 1946. He was a Fellow in Surgery at a hospital in Stockholm, Sweden in 1946 and 1947 and at the Medical College of South Carolina from 1947 to 1950 and again, from 1951 to 1954. He was a Professor of Surgery in Wisconsin from 1955 to 1957, Associate Professor of Pathology at the University of South Carolina from 1957 to 1968, has been in private practice since 1969, is the Past President of the Charleston County Medical Society in the year 1969-70. All of you have seen the capabilities of this individual and recognized that in this man, we have a leader who can serve our Association well in the office of Vice-President for the year 1971-72. Thank you. (Applause)

(Motion made from the floor that the nominations be closed and Dr. McIver elected by acclamation. This was voted on and passed and it was so ordered.)

*THE CHAIR:* Dr. McIver, congratulations on your election as Vice-President. (Applause)

(As Dr. Parker is escorted in, the House stands and applauds.)

*Dr. Edward F. Parker:* Mr. President, members and guests, it is not often that an honor of this magnitude comes to one—certainly to me and I am deeply grateful to you. I can only assure you that I shall strive to my utmost to carry on in the traditions of the Association and to promote, if possible, some unanimity of opinion on the various factors that tend to divide our profession at this time. I hope that in the next year we can have more than we've shown sometimes today. Again, I want to thank you deeply for the honor. My wife and I are both tremendously grateful. Thank you. (The House stands and applauds.)

*THE CHAIR:* Thank you, Dr. Parker.

Now we are under the election of Secretary. Last night, I introduced our Secretary as being a medical gadfly, but I think you should forget that — (laughter interrupting) — and we will now have the nomination of Secretary.

*Dr. Albert E. Cremer (Recognized):* Mr. President, I would like to place in nomination — and it is a distinct pleasure for me to nominate this gentleman — and I would like to nominate Dr. Strother Pope to succeed himself because he has shown such an untiring effort to keep the members informed and although he wears pink and blushes easily, he has been a thorough and diligent worker and, therefore, it is indeed a privilege and honor for me then to place his name in nomination as Secretary.

*THE CHAIR:* Thank you, Dr. Cremer. Are there other nominations?

(Motion was made from the floor that the nominations be closed and Dr. Pope elected by acclamation. This was voted on and passed and it was so ordered.)

Dr. Pope, will you stand and be recognized? (Applause as Dr. Pope stood.)

*THE CHAIR:* We are now under the election of Treasurer and the Treasurer has to be nominated by Council and we will ask Dr. Hope to make the nomination of Council for Treasurer.

*Dr. Harold P. Hope, Chairman of Council:* Mr. President, the Council would like to put in nomination the name of Dr. Howard Stokes, of Florence, to succeed himself as Treasurer. (Applause)

*THE CHAIR:* Thank you, Dr. Hope. It is the decision of this House to vote on the nomination and if he is not favorably received, then additional nominations can come from Council. (Laughter)

(Motion made by Dr. William Perry that he be favorably received. This was seconded and he was elected by acclamation.)

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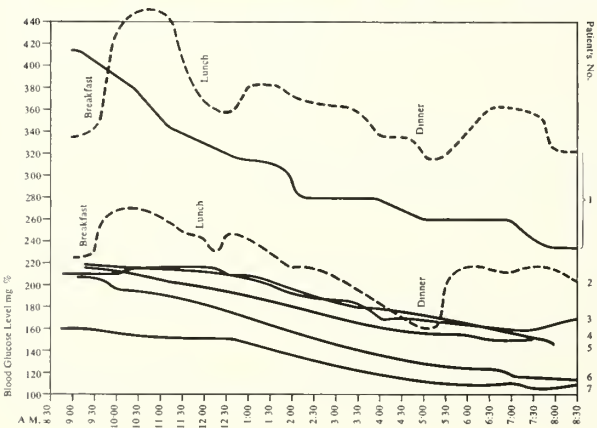
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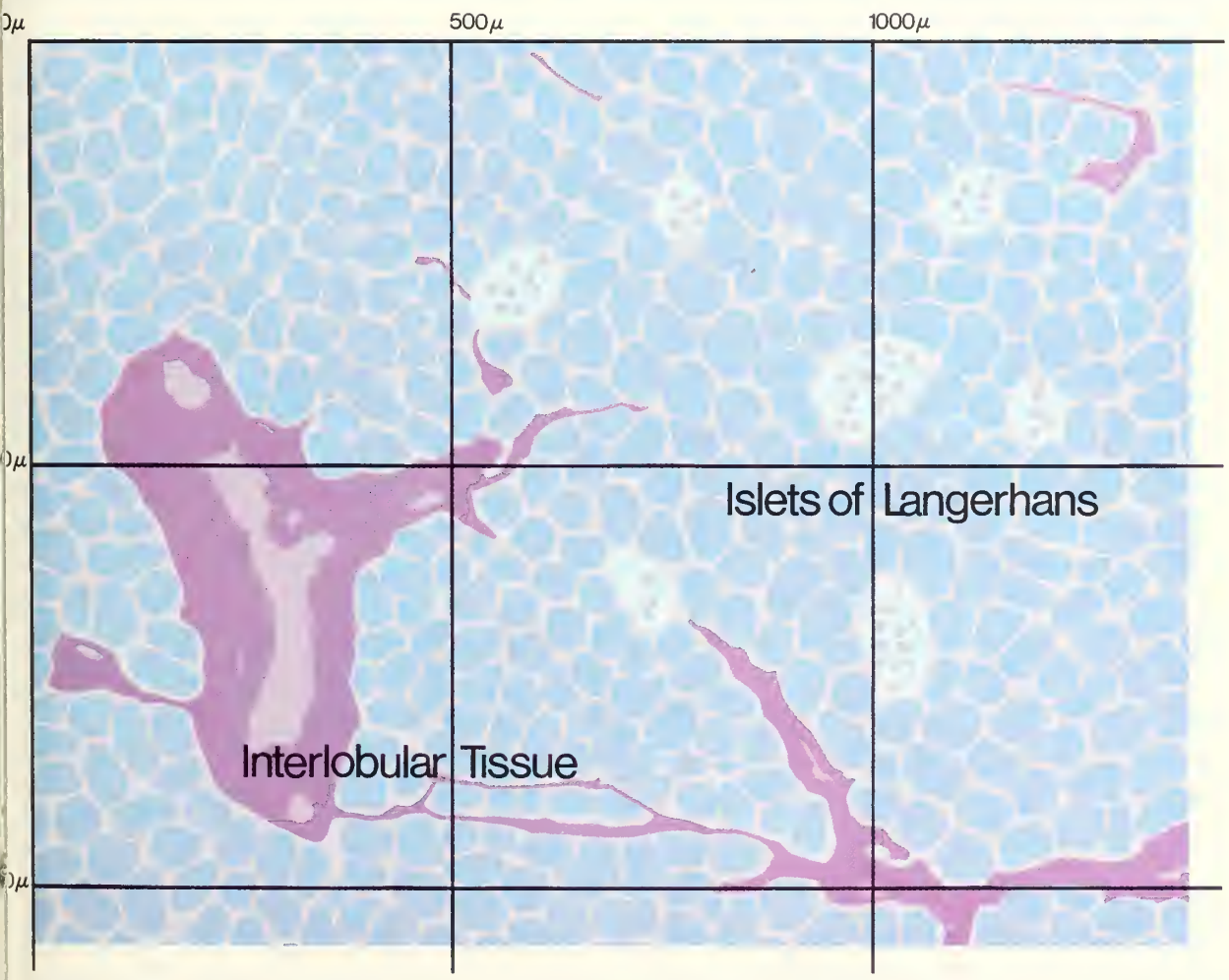

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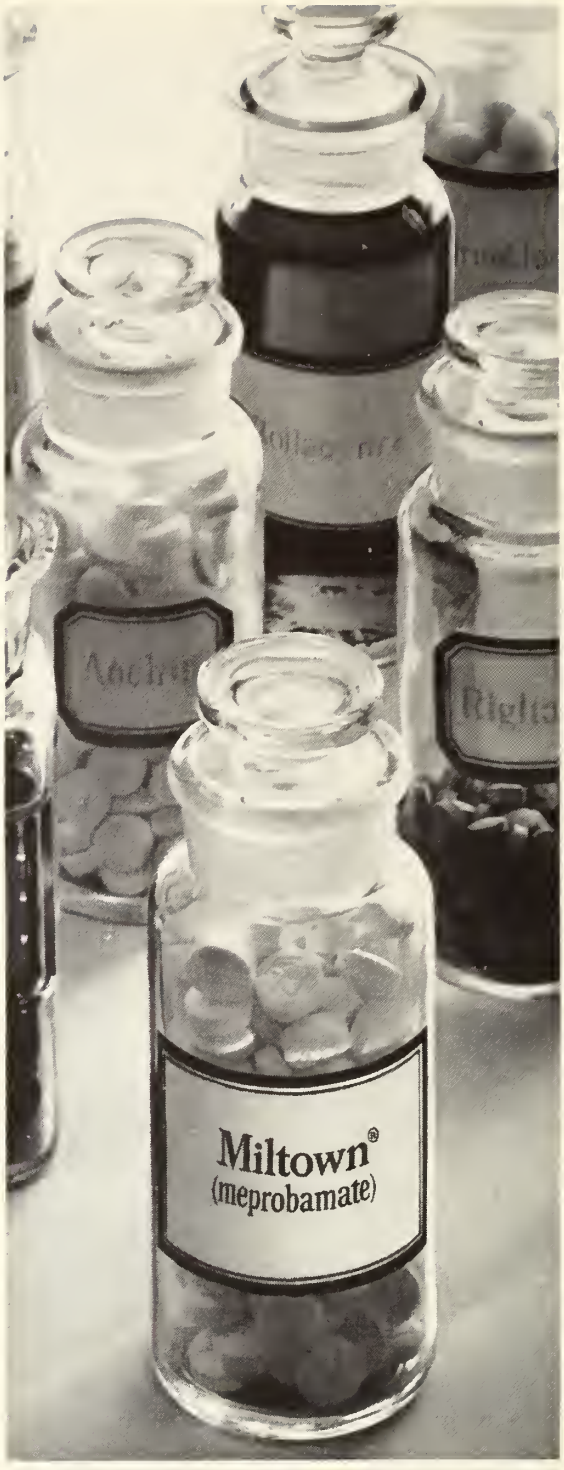
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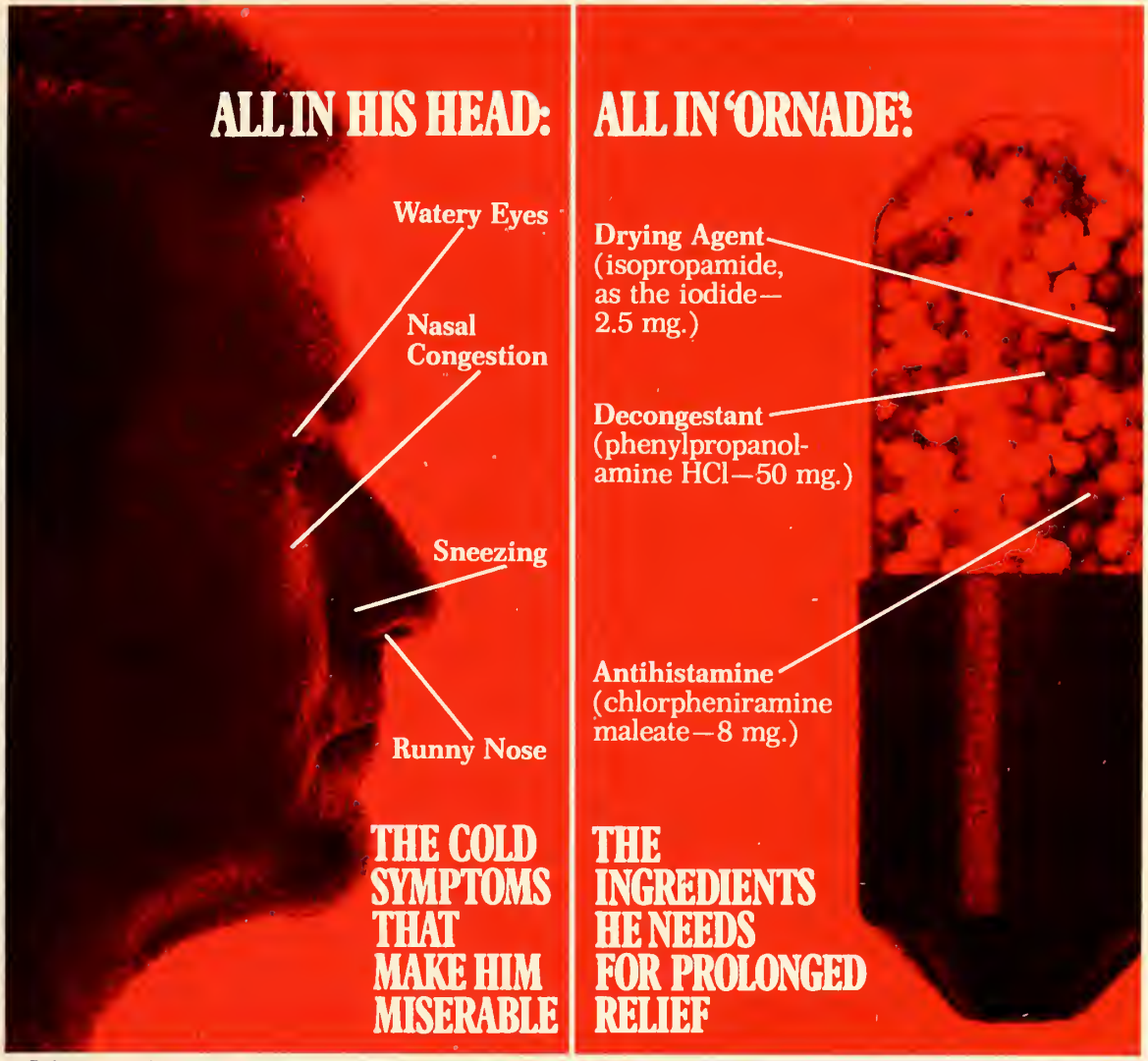





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6th District—
Dr. E. L. Proctor, Conway
(who is now serving)
Dr. Herman Singletary, Lake City
7th District—
Dr. Wallis D. Cone, Sumter
(who is now serving)
Dr. Howard Poston, Kingstree
8th District—
Dr. James H. Gressette, Orangeburg
(who is now serving)
Dr. Boyce M. Lawton, Jr., Cameron
9th District—
Dr. Michael F. Patton, Spartanburg
(who is now serving)
Dr. J. H. Guess, Greenville
At Large—
Dr. J. A. White, Easley
Dr. J. I. Ivester, Charleston.
(Neither of these gentlemen are now serving. The gentlemen who was on this Committee at large resigned a few weeks ago.)

*THE CHAIR:* Thank you, sir. (Following requests from the floor, the above list was read again.)

*DR. BEN N. MILLER, PRESIDENT, PRESIDING:* Dr. Tucker Laffitte, will you pick up the ballots on this side and Dr. Harry Metropol, will you pick up the ones on this side. I would like to call Dr. Strother Pope to the microphone.

Dr. D. Strother Pope, Secretary then presented certificates of appreciation to Dr. Ben N. Miller, President, and Dr. J. D. Thomas, Vice-President.

At this time, it is the action or the choice of the House of Delegates to name the place of the 1974 Annual Meeting.

*Dr. James C. Hughes, Conway (Recognized):* I would like to once again invite the South Carolina Medical Association to return for its Annual Meeting to the Grand Strand area. I think the facilities have been, perhaps, a little more suitable this year than in past years and we would like to have you come back again.

*THE CHAIR:* Thank you very much. Are there other invitations? Do I hear a motion from the House of Delegates indicating their wishes about this?

(A motion was made that the SCMA return to Myrtle Beach for its Annual Meeting in 1974, this was seconded, the vote was taken and passed.)

*THE CHAIR:* I would like to call on Mr. Jack Meadors now to perform a function.

*Mr. M. L. Meadors, Executive Secretary:* Heretofore, we have always given away the prizes at the end of the Scientific Session. Due to the split session, we no longer do that now and this is our last piece of business and we will call on our new assistant, Mr. Richard G. Pugh, to attend to that.

*THE CHAIR:* Before we have this drawing, we had a motion to recess the corporate body of Blue Shield to reconvene today and we will have this meeting in just a few minutes after one other additional matter of business. Dr. Hope, I wonder if you could give us these nominations now from Council to the Board of Directors of Blue Shield so that we can have that before we draw. Jack, we're going to delay you just a moment.

*Dr. Harold P. Hope, Chairman of Council:* Gentlemen, the nominations from Council for the Board of Directors of Blue Shield are as follows:

Mr. Preston Nesbitt was nominated to take Mr. Frank Adams' place;

Mr. Henry Savage, of Camden, was elected to take Mr. Meadors' place. The two gentlemen who are being replaced terms have expired.

Mr. Marshall Chapman, of Spartanburg, was nominated for a three-year term;

Mr. Albert Hartsell, of Rock Hill, was nominated for a two-year term;

Dr. Harry Metropol, Columbia; Dr. Wendell Tiller, Spartanburg; and Dr. Lucius Cline, of Greenville, were nominated.

*Dr. C. Tucker Weston, Columbia:* I move that the slate be elected.

(This motion was seconded.)

*THE CHAIR:* Are there any other nominations? Or should I better say that we will vote on these and if they are not elected, then we will have to have additional nominations from Council.

*A doctor from the floor:* Shouldn't the corporate body be called back into session and this be done by it?

*THE CHAIR:* All right, sir. We will take care of that in a moment. Jack, will it embarrass you to delay this until we do have the corporate meeting? I hope it will be very brief. Dr. Jameson, will you call your corporate body back into session?

*DR. HAL JAMESON, PRESIDENT, BLUE SHIELD CORPORATION, PRESIDING:*

*THE CHAIR:* The corporate body is now reconvened. You have heard the nominations from Council—

*Dr. C. Tucker Weston, Columbia:* I move that those nominations be accepted.

(This was seconded by several doctors, the vote was taken and passed.)

(*A doctor from the floor:* I make a motion we adjourn.

(This motion was seconded, the vote was taekn and passed.)

*Dr. C. Tucker Weston, Columbia:* We've got to act on those motions that were passed this morning. I rise to a point of order. The motions that we passed this morning now have to come before this corporate body. I demand a count then if you—

*DR. J. HAL JAMESON:* In view of that, I declare the corporate body back in session to pursue this element.

*Dr. J. P. Cain, Jr., Mullins:* I move those actions be approved.

(This was seconded, the vote was taken and the motion passed.)

(There was a Motion to adjourn, this was seconded, the vote was taken and the meeting of the corporate body of Blue Shield was adjourned.)

*DR. BEN N. MILLER, PRESIDENT, SCMA, PRESIDING:*

*THE CHAIR: ANNOUNCEMENT OF ELECTION RETURNS — MEDIATION COMMITTEE*

For the Mediation Committee:

3rd District—Dr. Ralph P. Baker, Newberry

6th District—Dr. James S. Garner, Jr., Mullins

9th District—Dr. W. A. Wallace, Spartanburg.

(Applause as elected doctors stood.)

The meeting was then adjourned.

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The Journal of the South Carolina Medical Association

## 50 YEARS AGO

**February, 1922**

A new format for the *Journal* was announced. Departmental editors were appointed for a number of departments, such as pathology and bacteriology; eye, ear, nose and throat; public health, etc. The South Carolina Pediatric Society met in Columbia and adopted a constitution. Dr. E. A. Hines was secretary-treasurer. Anderson County Medical Society reported that at its January meeting "a very delightful dinner was served at the conclusion of which a number of snappy songs, rendered by a local quartet, were enjoyed."




A group of 242 physicians in the United States and Canada have been admitted as members of the American College of Physicians. South Carolinians include **Dr. Eugene Y. Smith, Jr.**, of Charleston; **Dr. John P. Jackson, Jr.**, of Greenville; and **Dr. Lawton H. Salley** of Orangeburg.

The third volume of **Dr. Joseph I. Waring's** *A History of Medicine in South Carolina* has been published by the South Carolina Medical Association. This volume covers medicine in the state from 1900 to 1970.

The partnership of **Dr. H. A. Moskow** and **Dr. James S. McIlwain** of Denmark will open an office for the practice of medicine in Blackville. They will continue to operate their office in Denmark. **Greenville Radiology, P.A.** and **Drs. Pressly, Irwin, Bailey and King, P.A.** announced their Association effective on January 1. The practice will be limited to radiology and will be located in the Greenville Medical Center.

The newly elected officers of the Columbia Medical Society are **Dr. James W.** president-elect; **Dr. Herbert M. Black**, vice-president; **Dr. V. Hoyt Bodie**, secretary; and **Dr. William F. Luce**, treasurer. **Dr. Roy Fouche**, president; **Dr. Hugh H. DuBose, E. Hudgens** was elected chief of the medical staff at Florence's McLeod Memorial Hospital for 1972. **Dr. N. B. Baroody** was elected vice-chief of staff; **Dr. E. W. Taylor**, secretary and **Dr. C. S. Davis**, treasurer.

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## CONTROLLED SUBSTANCES INFORMATION

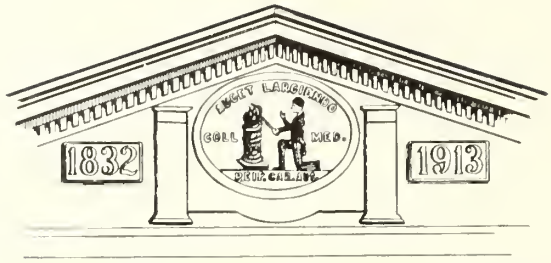
All persons who manufacture, distribute, dispense or prescribe Controlled Substances within South Carolina are required to register with both the Federal Bureau of Narcotics and Dangerous Drugs and with the State Board of Health.

Those persons who have not registered with both agencies must do so in order to legally manufacture, distribute, dispense or prescribe the scheduled drugs. If any person has not registered with both agencies, application blanks may be obtained from the Narcotic and Drug Control Division, State Board of Health, 2600 Bull Street, Columbia, S. C. 29201.

As of July 1, 1972, all prescriptions for Controlled Substances will be required to bear both State and Federal Controlled Substance Registration Numbers. These are to be used by the pharmacies as a double check against forged prescriptions. Pharmacies will be notified in the near future of those practitioners who have complete registration under both laws and will be instructed that it is illegal for them to dispense prescriptions issued by any person not properly registered under both State and Federal Laws.

Copies of Rules and Regulations issued pursuant to Act 445 of 1971 and which pertain to controlled substances under State law are available upon request from the State Board of Health. Copies of the Act were mailed to all practitioners in July of 1971.

Requests for information or assistance should be directed to the Narcotic and Drug Control Division, State Board of Health, 2600 Bull Street, Columbia, S. C. 29201. The telephone number is 758-5563.



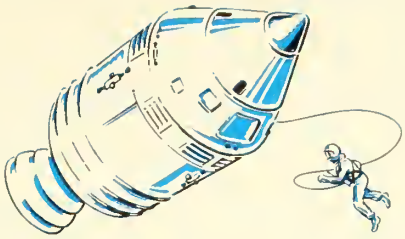

## Medical University of South Carolina

The Children's Heart Program, in association with the South Carolina Heart Association, is conducting a heart sounds screening program to search for hidden heart disease in school children. The Program, sponsored by the South Carolina Regional Medical Program, is directed by **Dr. Arno R. Hohn**, director of the Division of Pediatric Cardiology. Dr. Hohn recently participated in several teaching programs at the University of Iowa Hospital.

**Dr. Norman L. Garlick**, professor and chairman of the Department of Laboratory Animal Medicine presented a paper in Chicago at the annual conference of Research Workers in Animal Diseases. **Dr. Curtis P. Artz**, professor of surgery and chairman of the Department of Surgery served recently as visiting professor at the University of Pittsburgh and was keynote speaker for the second National Conference on Emergency Health Services in Washington, D. C. **Dr. William Weston, III**, associate professor of pediatrics addressed the Association of American Medical Colleges in Washington.

Fourteen new faculty appointments and two dual appointments have been announced. The new appointments are: **Dr. Tom L. Austin**, director of pediatrics at The Columbia Hospital, assistant clinical professor of pediatrics; **Dr. John A. Aycock**, Mt. Pleasant, assistant clinical professor of family practice; **Dr. Robert P. Barringer**, Charleston, instructor in medicine; **Dr. George M. Chamberlin**, Houston, Texas, assistant professor of physical medicine and rehabilitation, effective January 1, 1972; **Dr. W. Edmund Farrar, Jr.**, formerly of Emory School of Medicine, professor of medicine; **The Rev. Albert H. Keller, Jr.**, assistant clinical professor of family practice (ethics); **Dr. William D. Meredith**, Charleston, assistant professor of radiology, effective July 1, 1972; **Dr. Jerome G. Ondo**, Southwestern Medical School, Dallas, assistant professor of physiology, effective March 1, 1972; **Ferdinand O. Pharr**, assistant in psychiatry, Franklin C. Fetter Clinic; **Dr. Michael E. Yannone**, University of Iowa, visiting research professor of biochemistry (obstetrics/gynecology); **Dr. John H. Jarrett**, College of Dental Medicine, assistant professor of pathology, also serves as assistant professor and associate chairman of the Department of Oral Pathology in the dental college; **Dr. Arthur DiSalvo**, Bureau of Laboratory Services and Research, S. C. State Board of Health, Columbia, assistant clinical professor of microbiology; **Dr. William F. Fairey**, Orangeburg, clinical associate in medicine; **Dr. Joseph R. Dorchak**, Spartanburg General Hospital, assistant clinical professor of medicine.

The dual appointments are: **Dr. Charles P. Darby, Jr.**, assistant professor of pediatrics and microbiology; **Dr. William Weston, III**, associate professor of pediatrics and medicine.



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*A clinical supply will be sent to physicians and hospitals on request.*

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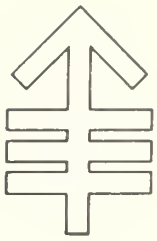
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# CANCER TOPICS



## CANCER CENTERS

PAUL H. O'BRIEN, M.D., F.A.C.S.*

We begin today a series of articles in which the goal is to present to the reader various aspects of the expanding and turbulent area of Oncology. Certainly, the recent emphasis on cancer centers has illuminated some of the long standing problems in the field of cancer. A conference was held at the Washington Hilton from December 9 - December 10, 1971 on Cancer Centers. The meeting was sponsored by the National Cancer Institute, the American Cancer Society, and the Association of Medical Colleges. Some two hundred and fifty guests were expected, over eight hundred guests attended.

The history of cancer centers was reviewed. Cancer centers in America have, by and large, developed independently of the medical university. The oncologist of yesterday rarely found what he considered appropriate sympathy and support within the walls of a medical center.

The problems of the pioneer oncologist are nicely documented in the career of one of South Carolina's most brilliant medical sons—James Marion Sims. Dr. Sims' perseverance and final success in the repair of vesico-vaginal fistula is an oft told tale. A less well known contribution by Dr. Sims was his establishment of a medical institution for the care of the cancer patient.

In 1871, Dr. Sims was reprimanded by the Board of Directors of both Lennox Hill and Doctor's Hospital in New York City for admitting a patient known to have cancer. Cancer was considered a contagious, infectious disease and patients afflicted with cancer were left to rot in their own beds. Dr. Sims continued admitting cancer patients for the relief of pain and to study the disease which created such terror, hostility, and anxiety. Dr. Sims was promptly suspended from the staff of the hospitals where he had been carrying on a busy and prosperous private practice. There were, of course, no benevolent government agencies to support his work. Mrs. Astor sympathized with Dr. Sims' interest in the cancer patient and arranged for the purchase of an old mansion in 1874 on 104th Street in Manhattan on the West Side. Ironically, it was not two years later that the compassionate Mrs. Astor developed cancer of the cervix and could only find a decent, comfortable abode in the hospital she had earlier helped establish. The hospital was called the "Memorial Hospital for Cancer". It is this author's prejudice that Dr. Sims' single most significant contribution was the founding of what is now known as "The Memorial Sloan Kettering Institute for Cancer and Allied Diseases".

While this institution has enjoyed nearly one hundred years of continuous growth and development, its union with the Cornell Medical School has been stormy. Ten years ago, the residents in General Surgery at Cornell's University Hospital were forbidden to attend cancer conferences held at Memorial Hospital across the street. Only in the past five years has a civilized, mutually beneficial relationship been accomplished between the institutions.

Similar stories are part of the tradition of the M. D. Anderson Cancer Center, the Ellis Fischel Cancer Center, and the Roswell Park Cancer Center.

The proposed new cancer centers are to be developed within the organization of a medical school. Cancer centers belong in the main stream of medical education. If a cancer

*Director, Cancer Clinic, Medical University of South Carolina
Associate Professor, Department of Surgery

center is to succeed, however, strong support from the administration is required. The faculty of such a cancer center will be multidisciplinary and include the Basic Sciences and Clinical Sciences. One of the major goals of such an organization is to develop an active interface between the interested basic scientist and the interested clinician. This organizational unit should have a proven research capacity which is goal oriented. New space for such a center should be provided. The proposed new cancer center would be responsible for providing the undergraduate a core curriculum in Oncology. Such a center should provide for the interested student and house officer a multidisciplinary research experience in Oncology.

One of the keystones in such an organization would be the contribution from radiation therapy. Radiation therapy should have clinical and research activities and also a more active role in undergraduate and graduate medical education. Within the framework of such a cancer center, better recruitment for the expanding area of radiotherapy would be a major goal. There are now some 600 to 700 fulltime radiotherapists. The current need for radiotherapists was recently defined by the NCI as 2,400. There are no more than 300 future radiotherapists in training today. Finally, the clinical extension of such a cancer center should provide a multidisciplinary consulting system for the cancer patient in the community.

To establish such a cancer center requires extensive planning and is best done with a planning Grant. The support of the Dean and nearly all the Department Chairmen is a prerequisite to even requesting a Planning Grant for a Cancer Center. The Cancer Committee at the Medical University has reviewed this concept of a cancer center. Dean McManus and the entire Cancer Committee have elected to see if a Planning Grant can be obtained for the goal of developing an operational grant for the construction of a cancer center.

Much of the widely publicized 1.4 billion dollars that was recently assigned for the cancer area is earmarked for the construction of cancer centers. However, where Congress will allocate this money and when the responsible authorities in the Department of the Budget would release these monies are unanswered questions. How we succeed in this venture will be described in future articles.

---

## MEETINGS

April 10-11 — Cancer Seminar sponsored by the American Cancer Society, Flamingo Hotel, Las Vegas, Nevada.

May 10-13—Postgraduate course on Fractures and Other Trauma, sponsored by the Chicago Committee on Trauma of the American College of Surgeons, Sheraton-Chicago Hotel, Chicago, Illinois. To register, send $125 to the American College of Surgeons, 55 East Erie Street, Chicago, Illinois 60611.

May 11-13 — Scientific Sessions for Physicians and Nurses sponsored by the South Carolina Heart Association, Ocean Forest Hotel, Myrtle Beach, South Carolina.

## THE SOUTH CAROLINA DEPARTMENT OF MENTAL HEALTH

William S. Hall, M.D.
State Commissioner of Mental Health

The year 1972 has special significance for the South Carolina Department of Mental Health. This year we observe the 150th anniversary of the South Carolina State Hospital and thus the Department.

With the very meager state appropriation of some $30,000 from the General Assembly on December 21, 1821, construction started July 22, 1822 on the first building – now the very historical Mills Building.

South Carolina thus became the second state in the nation to appropriate funds for a hospital for the mentally ill and on completion of the Mills Building in 1827 and the admission of the first patient on December 18 of that year, South Carolina became the third state in the nation to have in operation a public hospital for the mentally ill.

The Mills Building is now recognized as the oldest structure in the nation which was initially constructed to house mentally ill patients.

This represented an illustrious beginning and I believe the record of the S. C. State Hospital and the S. C. Department of Mental Health, the administrative level which has responsibility over all of South Carolina's public mental health facilities, has been true to this grand beginning.

Without a doubt, the full and wonderful support of the South Carolina medical profession was and is a contributing factor in the success story that is the S. C. Department of Mental Health. For this the Department is humbly grateful.

Throughout this year a number of events will be scheduled to call attention to and suitably mark this anniversary celebration. Prominent persons have already accepted invitations to visit with us during the year.

Among these are: Ewald W. Busse, M.D., president of the American Psychiatric Association; Perry C. Talkington, M.D., president-elect of the American Psychiatric Association; Bertram Brown, M.D., director of the National Institute of Mental Health; and Mr. Irving Chase, president of the National Association for Mental Health.

As the year unfolds and as the events are announced, the Department will include its friends in the medical profession – friends who were a part of our past, are a part of our present, and will be an important part in our future.

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### Study of "Defensive Medicine"

A study of the relationship between the threat of medical liability suits and the incidence of "defensive medicine" will be published in the December, 1971, issue of the Duke Law Journal. Reprints, at $1.50 each, may be ordered from the Managing Editor, Duke Law Journal, Duke University School of Law, Durham, North Carolina 27706.




**E. Kenneth Aycock, M.D., M.P.H.**
**Secretary and State Health Officer**

## STATE BOARD OF HEALTH NEWS

The Executive Committee of the State Board of Health has reviewed the recommendations of the Public Health Service, the American Academy of Pediatrics and of the Association of State and Territorial Health Officers concerning discontinuing non-selective smallpox vaccination. The Committee supports the recommendation to discontinue non-selective smallpox vaccination, but emphasizes the need to continue vaccinating travelers to endemic countries, health workers and individuals in positions dealing with international travelers.

Studies during the past decade, in which South Carolina has been a part, indicate that the risk of severe reaction to smallpox is greater than the risk of contracting smallpox. The Public Health Service determined that three out of each 1,000 vaccinations give a reaction classified as greater than mild. (In South Carolina in 1970, we had one death because of smallpox vaccination.)

During the 1971 Legislative Session, the South Carolina law requiring smallpox vaccination was altered. The law is now more permissive. Physicians in South Carolina now have a choice concerning the care of their patients. They should vaccinate those whom they consider to need smallpox vaccinations. Yet for patients considered better served by non-vaccination, there is no longer need to vaccinate due to legal reasons.

The State Board of Health will continue surveillance of smallpox and review from time to time the policies concerning smallpox vaccinations.

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# lackie
# lemorrhoids

H.C., 40, taxicab driver,
ried with four children.
nplains of anorectal pain,
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-air conditioned cab.
ats a great deal. Sudden
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. Similar episode when he
24 years old. Examination
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matous internal and ex-
al hemorrhoids.




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patient

to help
relieve the pain,
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burning associated
with this and
similar anorectal
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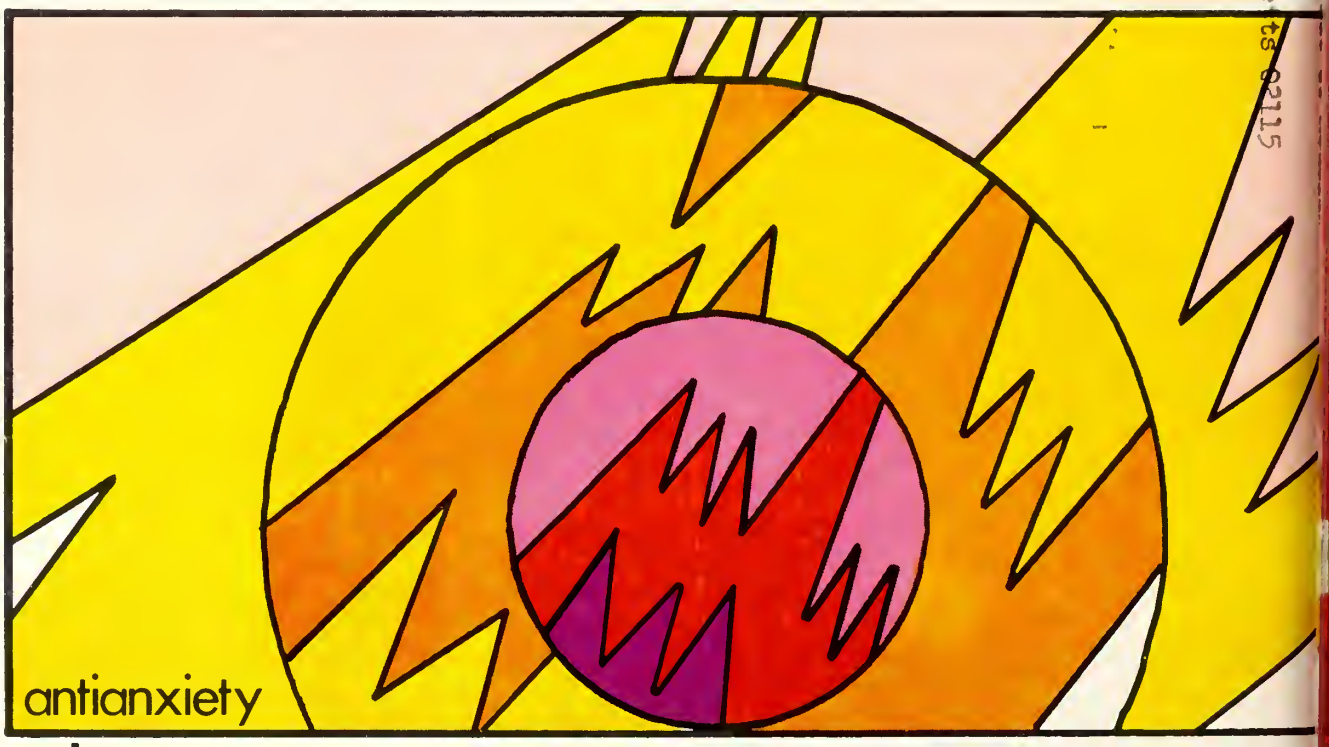
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**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported an recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances, syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

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The Journal of The
# SOUTH CAROLINA
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RADICAL MASTECTOMY

MORBIDITY OF ASCARIASIS

PESTICIDE MORBIDITY

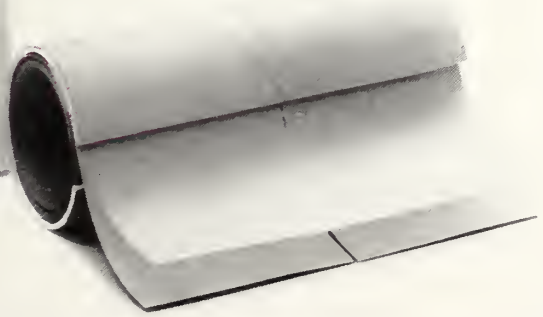
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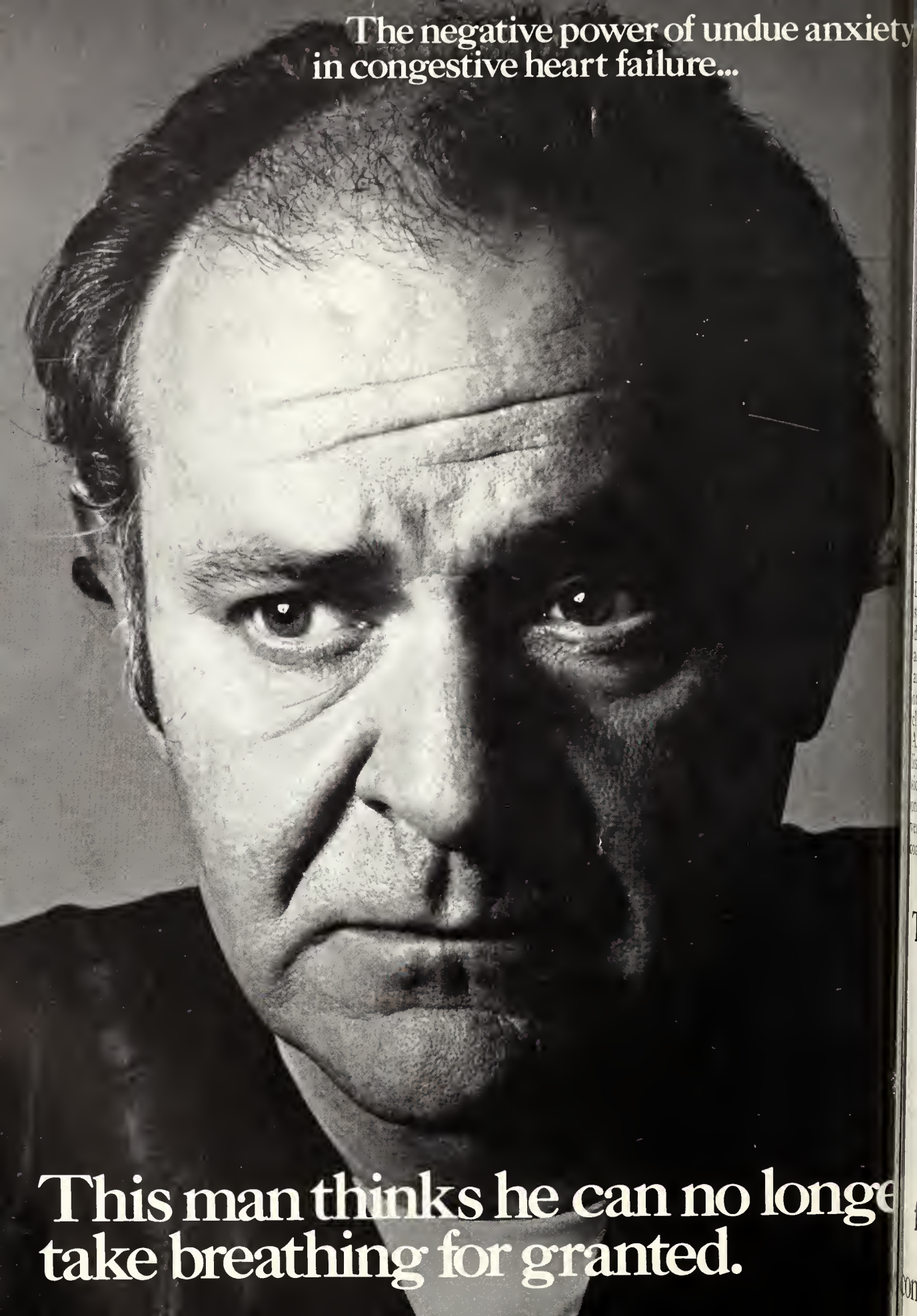
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The negative power of undue anxiety
in congestive heart failure...
This man thinks he can no longe
take breathing for granted.

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6 APR 1972

**Typical of many patients with congestive heart failure, he also suffers from severe anxiety, a psychic factor that may influence the character and degree of his symptoms, such as dyspnea. His apprehension may also deprive him of the emotional calm so important in maintenance therapy.**

*Aid in rehabilitation*

Specific medical and environmental measures are often enhanced by the antianxiety action of adjunctive Libritabs (chlordiazepoxide). Libritabs can also facilitate treatment of the tense convalescent patient until antianxiety therapy is no longer required. Whereas in geriatrics the *usual daily dosage* is 5 mg two to four times daily, the *initial dosage* in elderly and debilitated patients should be limited to 10 mg or less per day, adjusting as needed and tolerated.

*Concomitant use with primary agents*

Libritabs is used concomitantly with certain specific medications of other classes of drugs, such as cardiac glycosides, diuretics, antihypertensives, vasodilators and oral anticoagulants, whenever excessive anxiety or emotional tension adversely affects the clinical condition or response to therapy. Although clinical studies have not established a cause and effect relationship, physicians should be aware that variable effects on blood coagulation have been reported very rarely in patients receiving oral anticoagulants and chlordiazepoxide HCl.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Indicated when anxiety, tension and apprehension are significant components of the clinical profile.

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

**Supplied:** Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.

# The positive power of

# Libritabs®

## (chlordiazepoxide)

5-mg, 10-mg, 25-mg tablets

## t.i.d./q.i.d.

up to 100 mg daily

## for severe anxiety accompanying congestive heart failure

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*Mintezol® is nonstaining*

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SUSPENSION, 500 mg per 5 cc

You'll rely on MINTEZOL (Thiabendazole MSD) often for pinworm disease. Not just because that's a very common helminthic infestation, but because MINTEZOL has such a high degree of efficacy. MINTEZOL also provides an unusually wide range of action—against threadworm, hookworm, whipworm, and large roundworm disease. This broad spectrum of activity makes it particularly effective in these mixed worm infestations. MINTEZOL isn't a dye. So you won't hear complaints about stained teeth, clothing, or bed linen. The most frequently occurring side effects have been anorexia, nausea, vomiting, and dizziness.



**ntraindications:** History of hypersen$i-ity to thiabendazole.

**arnings:** If hypersensitivity reactions oc-r, drug should be discontinued immedi-ely and not resumed. Rarely, erythema ultiforme has been associated with thia-ndazole therapy; in severe cases (Stevens-hnson syndrome), fatalities have oc-rred. Because CNS side effects may cur quite frequently, activities requir-mental alertness should be avoided. fe use in pregnancy or lactation has not en established.

**ecautions:** Ideally, supportive therapy is dicated for anemic, dehydrated, or mal-nourished patients prior to initiation of an-thelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.

**Adverse Reactions:** Most frequently en-countered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blur-ring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cepha-lin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; mal-odor of the urine, crystalluria, hematuria; appearance of live Ascaris in the mouth and nose. Hypersensitivity reactions in-clude: fever, facial flush, chills, conjunc-tival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (includ-ing Stevens-Johnson syndrome), and lymph-adenopathy.

**Supplied:** Suspension, containing 500 mg thiabendazole per 5 cc, in bottles of 120 cc.

*For more detailed information, consult your MSD representative or see the Direction Circular. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486*

**MSD** MERCK SHARP & DOHME

# Lofty Hemorrhoids

Mr. H.H., 55, high steel construction worker. For several years, other medications provided little or no relief from pain, burning, and itching of internal and external hemorrhoids. Made worse by much heavy lifting which increased pressure in the intrahemorrhoidal plexus. "It wasn't serious enough," so he procrastinated in consulting a doctor. Was also afraid the doctor might find something really serious. Bright blood appearing in the toilet bowl and on toilet tissue scared him into seeing doctor. However, careful history and examination disclosed internal hemorrhoids.



a typical proctological patient

to help relieve the pain, itching, burning associated with this and similar anorectal conditions

prescribe

## Anusol HC® hemorrhoidal suppositories with hydrocortisone acetate



Each suppository contains hydrocortisone acetate 10 mg, bismuth subgallate 2.25%, bismuth resorcin compound 1.75%, benzyl benzoate 1.2%, Peruvian balsam 1.8%, zinc oxide 11.0%, and boric acid 5.0%, plus the following inactive ingredients: bismuth subiodide, calcium phosphate, and coloring in a bland hydrogenated vegetable oil base.

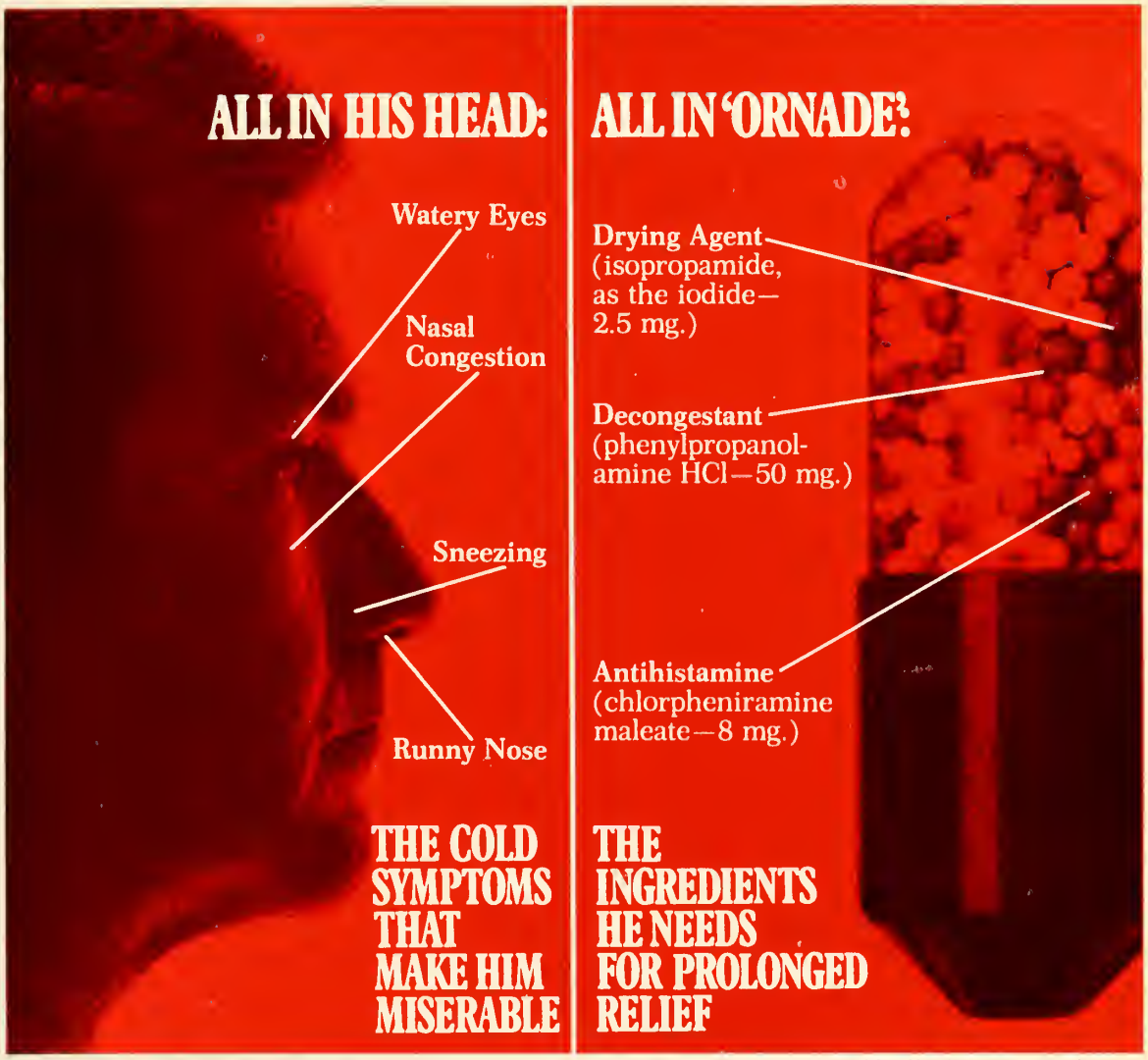
**Precaution** Prolonged or excessive use of Anusol-HC might produce systemic corticosteroid effects. Symptomatic relief should not delay definitive diagnosis or treatment.

**Dosage and Administration** Anusol-HC: One suppository in the morning and one at bedtime for 3 to 6 days or until the inflammation subsides. Regular Anusol: One suppository in the morning, one at bedtime and one immediately following each evacuation.

**And for long-term patient comfort... recommend Anusol®** hemorrhoidal suppositories
Each suppository contains the ingredients of Anusol-HC without the hydrocortisone.

Warner-Chilcott
Division, Warner-Lambert Company
Morris Plains, New Jersey 07950

ANGI




Before prescribing, see complete prescribing information in SK&F literature or *PDR*.

**Indications:** Upper respiratory congestion and hypersecretion associated with: the common cold; acute and chronic sinusitis; vasomotor rhinitis; allergic rhinitis (hay fever, "rose fever," etc.).

**Contraindications:** Hypersensitivity to any component; concurrent MAO inhibitor therapy; severe hypertension; bronchial asthma; coronary artery disease; stenosing peptic ulcer; pyloroduodenal or bladder neck obstruction. Children under 6.

**Warnings:** Advise vehicle or machine operators of possible drowsiness. Warn patients of possible additive effects with alcohol and other CNS depressants.

*Usage in Pregnancy:* In pregnancy, nursing mothers and women who might bear children, weigh potential benefits against hazards. Inhibition of lactation may occur.

*Effect on PBI Determination and $I^{131}$ Uptake:* Isopropamide iodide may alter PBI test results and will suppress $I^{131}$ uptake. Substitute thyroid tests unaffected by exogenous iodides.

**Precautions:** Use cautiously in persons with cardiovascular disease, glaucoma, prostatic hypertrophy, hyperthyroidism.

**Adverse Reactions:** Drowsiness, excessive dryness of nose, throat or mouth; nervousness; or insomnia. Also, nausea, vomiting, epigastric distress, diarrhea, rash, dizziness, weakness, chest tightness, angina pain, abdominal pain, irritability, palpitation, headache, incoordination, tremor, dysuria, difficulty in urination, thrombocytopenia, leukopenia, convulsions, hypertension, hypotension, anorexia, constipation, visual disturbances, iodine toxicity (acne, parotitis).

**Supplied:** Bottles of 50 capsules.

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brand of sustained release capsules

Each capsule contains 8 mg. of Teldrin®(brand of chlorpheniramine maleate); 50 mg. of phenylpropanolamine hydrochloride; 2.5 mg. of isopropamide, as the iodide.

## UNCOMMON RELIEF FOR COLD SYMPTOMS

OR-203

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**DBI® phenformin HCl tablets of 25 mg.**
**DBI-TD® phenformin HCl capsules of 50 and 100 mg.**

*Indications:* Stable adult diabetes mellitus; sulfonylurea failures, primary and secondary; adjunct to insulin therapy of unstable diabetes mellitus.
*Contraindications:* Diabetes mellitus that can be regulated by diet alone; juvenile diabetes mellitus that is uncomplicated and well regulated on insulin; acute complications of diabetes mellitus (metabolic acidosis, coma, infection, gangrene); during or immediately after surgery where insulin is indispensable; severe hepatic disease; renal disease with uremia; cardiovascular collapse (shock); after disease states associated with hypoglycemia.
*Warnings:* Use during pregnancy is to be avoided.
*Precautions:* 1. *Starvation Ketosis:* This must be differentiated from "insulin lack" ketosis and is characterized by ketonuria which, in spite of relatively normal blood and urine sugar, may result from excessive phenformin therapy, excessive insulin reduction, or insufficient carbohydrate intake. Adjust insulin dosage, lower phenformin dosage, or supply carbohydrates to alleviate this state. **Do not give insulin without first checking blood and urine sugar.**
2. *Lactic Acidosis:* This drug is not recommended in the presence of azotemia or in any clinical situation that predisposes to sustained hypotension that could lead to lactic acidosis. To differentiate lactic acidosis from ketoacidosis, periodic determinations of ketones in the blood and urine should be made in diabetics previously stabilized on phenformin, or phenformin and insulin, who have become unstable. If electrolyte imbalance is suspected, periodic determinations should also be made of electrolytes, pH, and the lactate-pyruvate ratio. The drug should be withdrawn and insulin, when required, and other corrective measures instituted immediately upon the appearance of any metabolic acidosis.
3. *Hypoglycemia:* Although hypoglycemic reactions are rare when phenformin is used alone, every precaution should be observed during the dosage adjustment period particularly when insulin or a sulfonylurea has been given in combination with phenformin.
*Adverse Reactions:* Principally gastrointestinal; unpleasant metallic taste, continuing to anorexia, nausea and, less frequently, vomiting and diarrhea. Reduce dosage at first sign of these symptoms. In case of vomiting, the drug should be immediately withdrawn. Although rare, urticaria has been reported, as have gastrointestinal symptoms such as anorexia, nausea and vomiting following excessive alcohol intake.
(B)98-146-103-C

*For complete details, including dosage, please see full prescribing information.*

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

**Contributions of Original Articles**

Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

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Illustrations—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond tbis must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

References—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, Arch Int Med 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard—e.g. mg, ml, Gm.

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**Contraindications:** Orinase alone is not effective in juvenile or growth-onset diabetes nor in unstable brittle diabetes where insulin therapy is required.

Orinase should not be used: when diabetes is complicated by acidosis, ketosis, or coma, or when a history of repeated bouts of acidosis or coma is obtained; in the presence of other acute complications such as fever, severe trauma, or infections; and in patients with severe renal insufficiency. Insulin is indicated in these circumstances.

**Pregnancy Warning:** The safety and usefulness of Orinase during pregnancy has not been established either from the standpoint of the mother or the fetus. Animal studies have demonstrated feticidal and teratogenic effects of doses of 1,000-2,500 mg./kg./day, but application to human subjects unknown. Therefore, Orinase is not recommended for the pregnant diabetic, and when administering Orinase to women of childbearing age, these facts should be borne in mind.

**Precautions:** Diagnostic and therapeutic measures necessa for optimal control with insulin are also necessary with Orinas The patient on Orinase must be fully instructed: about th nature of his disease; how to prevent and detect complication how to control his condition; not to neglect dietary restriction develop a careless attitude or disregard instructions relative body weight, exercise, personal hygiene, and avoidance of i fection; how to recognize and counteract impending hypogl cemia; how and when to test for glycosuria and ketonuria; ho to use insulin; and to report to the physician immediately if h does not feel as well as usual.

Caution, very close observation, and careful adjustment dose are necessary when: insulin is withdrawn during the tri period in order to avoid ketosis, acidosis, and coma; thiazi diuretics are administered which may result in aggravation diabetic state and increased tolbutamide requirement, temp rary loss of control, or even secondary failure; treating patie with impaired hepatic and/or renal function and debilitated, m nourished, or semistarved patients in order to avoid severe hyp glycemia which may require corrective therapy over seve days; and treating patients with severe trauma, infection, or su gical procedures where temporary return to insulin or additi of insulin may be necessary. Response to tolbutamide is dimi ished in patients receiving therapy with beta blocking agen

As some diabetics are not suitable candidates, it is essent that the physician familiarize himself with the indications, lim of application, and selection of patients for therapy.

Patients must be under continuous medical supervision, a during the initial test period should communicate with the phy

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If you're around 40 or 45, you've robably had quite a bit of clinical experience in Orinase.

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## Orinase®

0.5 g. tablets

(tolbutamide, Upjohn)

daily, and during the first month report at least once weekly hysical examination and definitive evaluation. After a month, minations are recommended monthly or as indicated. Ap- ance of ketonuria, increase in glycosuria, unsatisfactory ring or persistent elevation of blood sugar, or failure to in and hold clinical improvement indicate nonresponsive- to Orinase (tolbutamide). Orinase does not obviate need for taining standard diet regulation. Uncooperative patients uld be considered unsuitable for therapy. Prescriptions should efilled only on specific instruction of physician. In treating asymptomatic diabetic patients with abnormal glucose ance, glucose tolerance tests should be obtained at three- x-month intervals. Orinase is not an oral insulin or a substi- for insulin and must not be used as sole therapy in juvenile etes or in diabetes complicated by acidosis or coma where lin is indispensable.

phenformin is prescribed in combination with Orinase, ap- riate package literature should be consulted.

**dverse Reactions:** Severe hypoglycemia, though uncommon, occur and may mimic acute neurologic disorders such as bral thrombosis. Certain factors such as hepatic and renal ase, malnutrition, advanced age, alcohol ingestion, and nal and pituitary insufficiency may predispose to hypogly- ia and certain drugs such as insulin, phenformin, sulfona- s, oxyphenbutazone, salicylates, probenecid, monamine ase inhibitors, phenylbutazone, bishydroxycoumarin, and hyramidol may prolong or enhance the action of Orinase and ease risk of hypoglycemia. Orinase long-term therapy has n reported to cause reduction in RAI uptake without producing clinical hypothyroidism or thyroid enlargement and at high doses is mildly goitrogenic in animals. Photosensitivity reactions, disulfiram-like reactions after alcohol ingestion, and false-positive tests for urine albumin have been reported.

Although usually not serious, gastrointestinal disturbances (nausea, epigastric fullness, and heartburn) and headache appear to be dose related and frequently disappear with reduction of dose or administration with meals. Allergic skin reactions (pruritus, erythema, urticaria, and morbilliform or maculopapular eruptions) are transient, usually not serious, and frequently disappear with continued administration. Orinase should be discontinued if skin reactions persist. Recent reports indicate that long-term use of Orinase has no appreciable effect on body weight.

Orinase appears to be remarkably free from gross clinical toxicity: crystalluria or other renal abnormalities have not been observed; incidence of liver dysfunction is remarkably low and jaundice has been rare and cleared readily on discontinuation of drug (carcinoma of the pancreas or other biliary obstruction should be ruled out in persistent jaundice); leukopenia; agranulocytosis; thrombocytopenia; hemolytic anemia; aplastic anemia; pancytopenia; and hepatic porphyria and porphyria cutanea tarda have been reported.

**Supplied:** *0.5 g. Tablets*—bottles of 50, 200, 500, and 1,000, and cartons of 100 in foil strips.

**For additional product information, see your Upjohn representative or consult the package insert.**

The Upjohn Company, Kalamazoo, Michigan 49001 **Upjohn**

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## Before

3/29/67 Before therapy with 5%-FU cream. Patient P. T. shows a moderately severe solar keratotic involvement. Note residual scarring from the previous cryosurgical and electrosurgical procedures on forehead and ridge of nose adjacent to periauricular area.

## After

6/12/67 Seven weeks after cessation of therapy. Reactions have subsided. Residual scarring is not seen except for that due to prior surgery. Inflammation has disappeared and face is clear of keratotic lesions.



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# ınd Efudex® (fluorouracil) 5% cream can resolve it.

## Ll it actinic, solar or senile keratoses, ıny regard it as "precancerous."[1,2]

ical fluorouracil, considered by some dermatologists to be a major ance in the treatment of multiple solar keratoses,[3,4] offers the physi- n a relatively inexpensive alternative to cryosurgery, electrodesic- on and cold knife surgery. Of the topical fluorouracils available, only dex offers 2% and 5% solution and 5% cream formulations—formula- ıs that have proved effective in the treatment of these mutliple lesions.

## ual duration of therapy, 2 to 4 weeks.

dies showed that with the 2% and 5% Efudex preparations, the usual uation of therapy was only 2 to 4 weeks.[5] Other studies with topical urouracil revealed that when concentrations of less than 2% were , significant numbers of lesions recurred.[6]

## eats the lesions you can't see, too.

merous lesions, not apparent prior to 2% and 5% Efudex therapy, ifested themselves by definite reactions, while intervening skin ained relatively unaffected.[5] The early eradication of these subclini- esions (which may otherwise have undergone further progression) bably accounts for the reduced incidence of future solar keratoses in ents treated with topical fluorouracil—especially with 5% entrations.[6]

## w to identify solar keratoses.

ically, the lesion—a flat or slightly elevated brown to red-brown ule—is dry, rough, adherent and sharply defined. Multiple lesions the rule.

## dictable therapeutic response.

response to a typical course of Efudex therapy is usually acteristic and predictable. After 3 or 4 days of treatment, erythema ns to appear in the area of keratoses. This is followed by a moderate tense inflammatory response, scaling and occasionally moderate erness or pain. The height of this response generally occurs two ks after the start of therapy and then begins to subside as treatment pped. Within two weeks of discontinuing medication, the mmation is usually gone. Lesions that do not respond should opsied.

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**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Multiple actinic or solar keratoses.

**Contraindications:** Patients with known hypersensitivity to any of its components.

**Warnings:** If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

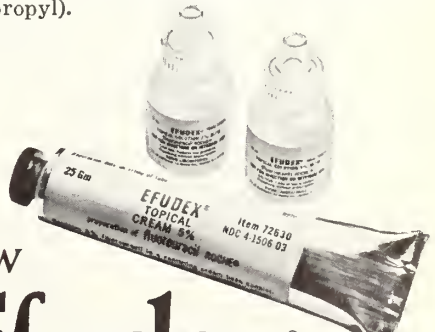
**Precautions:** If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

**Adverse Reactions:** Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

**Dosage and Administration:** Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

**How Supplied:** Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).



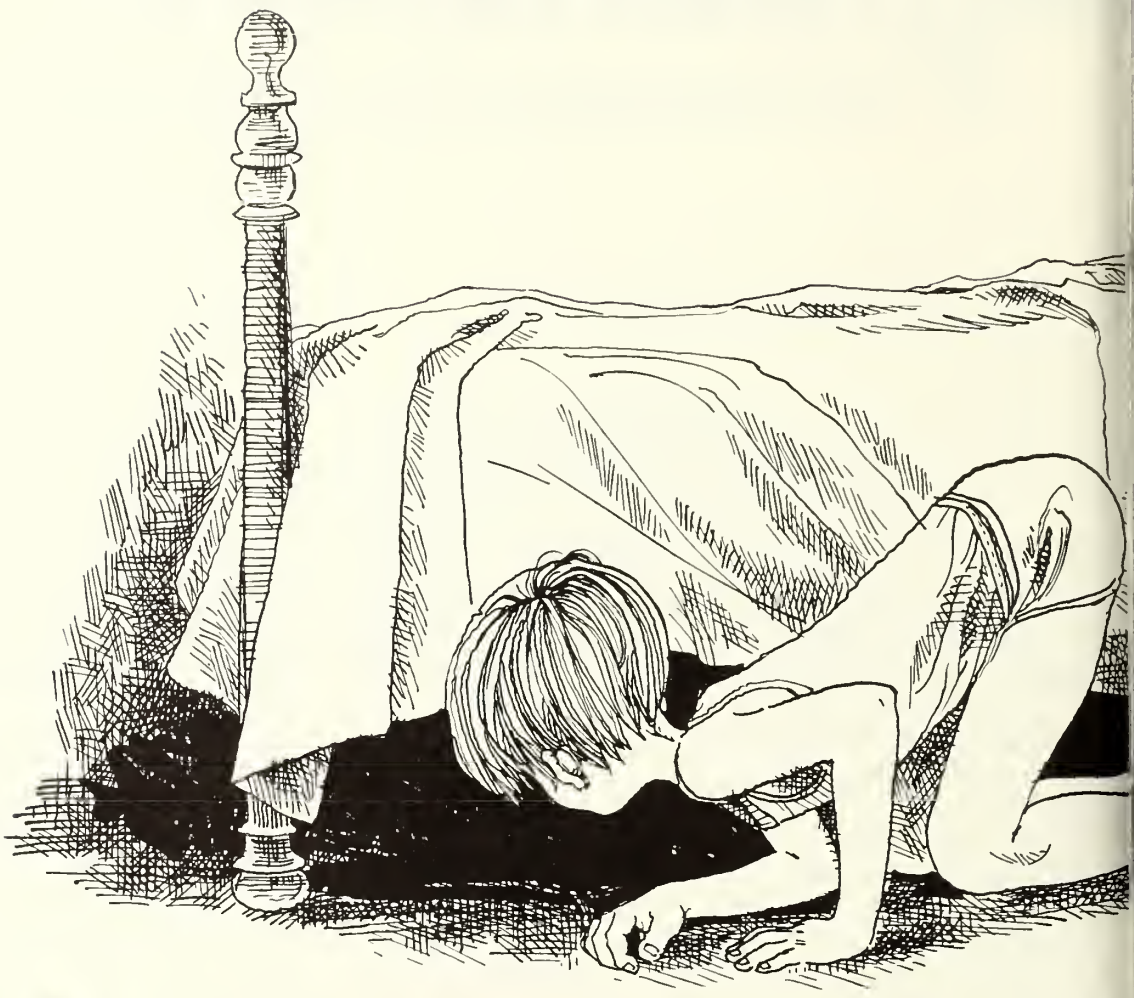

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**Actions.** Antiminth (pyrantel pamoate) has demonstrated anthelmintic activity against *Enterobius vermicularis* (pinworm) and *Ascaris lumbricoides* (roundworm). The anthelmintic action is probably due to the neuromuscular blocking property of the drug.

Antiminth is partially absorbed after an oral dose. Plasma levels of unchanged drug are low. Peak levels (0.05-0.13 μg/ml) are reached in 1-3 hours. Quantities greater than 50% of administered drug are excreted in feces as the unchanged form, whereas only 7% or less of the dose is found in urine as the unchanged form of the drug and its metabolites.

**Indications.** For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

**Warnings.** *Usage in Pregnancy:* Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

**Precautions.** Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with pre-existing liver dysfunction.

**Adverse Reactions.** The most frequently encountered adverse reactions are related to the gastrointestinal system.

Gastrointestinal and hepatic reactions: anorexia, nausea, vomiting, gastralgia, abdominal cramps, diarrhea and tenesmus, transient elevation of SGOT.

CNS reactions: headache, dizziness, drowsiness, and insomnia

Skin reactions: rashes

**Dosage and Administration.** *Children and Adults:* Antiminth Oral Suspension (50 mg. of pyrantel base/ml.) should be administered in a single dose of 11 mg. of pyrantel base per kg. of body weight (or 5 mg./lb.); maximum total dose 1 gram. This corresponds to a simplified dosage regimen of 1 cc. of Antiminth per 10 lbs. of body weight. (One teaspoonful = 5 cc.)

Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day; and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices. Because of limited data on repeated doses, no recommendations can be made.

**How Supplied.** Antiminth is available as a pleasant tasting caramel-flavored suspension which contains the equivalent of 50 mg. pyrantel base per ml., supplied in 60 cc. bottles.

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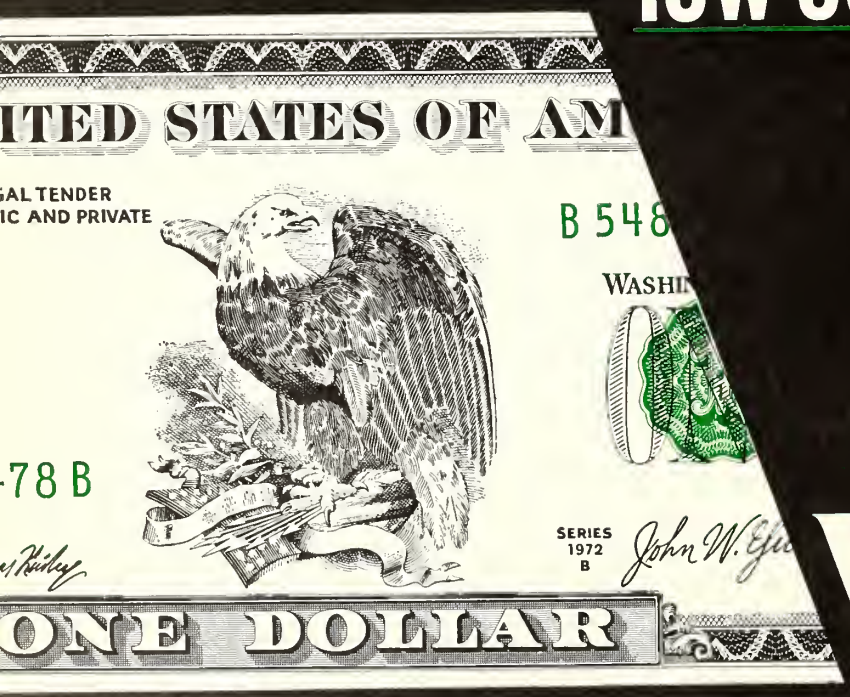
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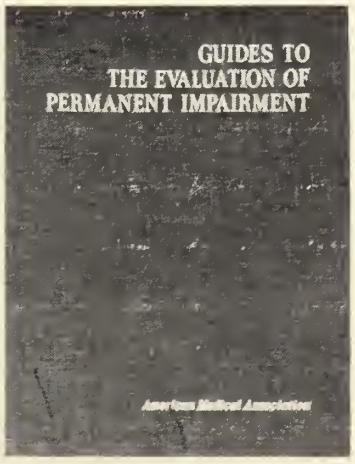
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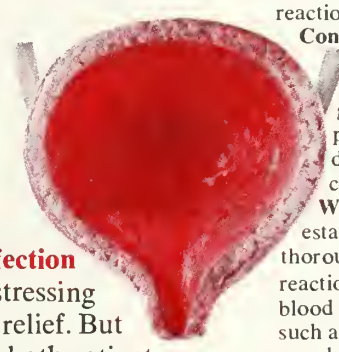
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As the antibacterial action of Gantanol begins to control the io ion, the analgesic action of the Azo component starts relieving s mptoms associated with her infected, inflamed and irritated u er. In acute, nonobstructed cystitis—when rapid relief of m toms and early control of infection are essential—prescribe zo Gantanol, the basic therapy that helps your patient feel it while she gets better.

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**Contraindications:** Children below age 12; sulfonamide hypersensitivity; pregnancy at term and during nursing period. Contraindicated in glomerulonephritis, severe hepatitis, uremia, and pyelonephritis of pregnancy with gastrointestinal disturbances, because of phenazopyridine HCl component.

**Warnings:** Safe use in pregnancy has not been established, and teratogenicity potential has not been thoroughly investigated. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported; clinical signs such as sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. Complete blood counts and urinalysis with careful microscopic examination should be performed frequently during sulfonamide therapy.

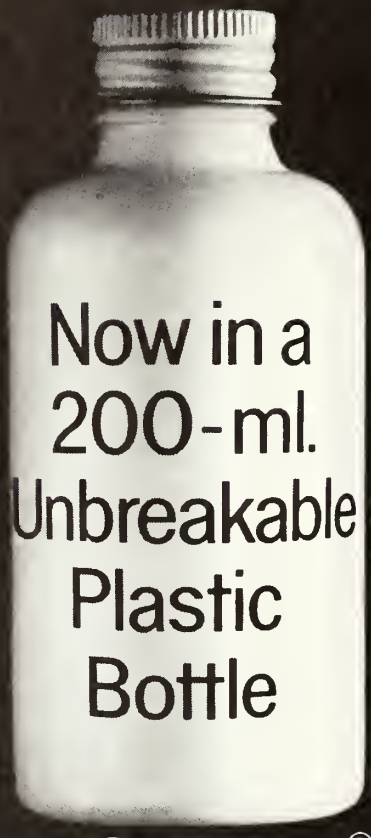
**Precautions:** Use with caution in patients with impaired renal or hepatic function, severe allergy, bronchial asthma and in glucose-6-phosphate dehydrogenase-deficient individuals. In the latter, hemolysis, a frequently dose-related reaction, may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias:* agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia; *allergic reactions:* erythema multiforme (Stevens-Johnson syndrome), skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis; *gastrointestinal reactions:* nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis; *C.N.S. reactions:* headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia; and *miscellaneous reactions:* drug fever, chills, toxic nephrosis with oliguria and anuria, polyarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide and thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

**Dosage:** Usual adult dosage for acute, painful phase of urinary tract infection is 4 tablets initially, then 2 tablets morning and evening. If pain persists beyond seven days, causes other than infection should be sought. After relief has been obtained, continued treatment with Gantanol (sulfamethoxazole) may be considered.

*NOTE:* Patients should be told that the orange-red dye (phenazopyridine HCl) will color the urine soon after ingestion.

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The Journal
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VOLUME 68 MARCH, 1972 NUMBER 3

# IS THE RADICAL MASTECTOMY PASSE?

PAUL H. O'BRIEN, M.D., F.A.C.S.*

In 1894 Halsted presented the results of operations for cure of cancer of the breast performed at the Johns Hopkins Hospital from June 1889 to January 1894.[1] Halsted defined a cure from surgery as a patient with breast cancer who did not develop local recurrence within three years. During the last half of the Nineteenth Century, wide resections were made of the primary cancer with local recurrence rates from 50 to 80 percent.[1] No attempts were made to excise all of the breast tissue with the regional lymph nodes prior to Halsted. Willy Meyer developed a similar surgical procedure for carcinoma of the breast nearly simultaneously and totally independently.[2] Both of these investigators were upset with the high rate of local recurrence with the surgical procedures used in the Nineteenth Century. The procedure, radical mastectomy, diminished local recurrence rate at three years to less than eight percent. When Dr. Halsted presented his work on breast cancer to the American Surgical Association, the paper was discussed by Rudolph Metas. Dr. Metas pointed out the limitations of the procedure. There are breast cancers that metastasize via the blood stream to lungs and bone bypassing the axillary lymph nodes. The operation pays no attention to those cancers which do not utilize the axillary lymph nodes as their primary lymph node basin. The operation would not be successful if the cancer had gone beyond the confines of the breast and there was no scientific method of discerning when such an occurrence had taken place. Obviously not the perfect answer to breast cancer, the radical mastectomy represented a considerable improvement over previous treatment methods.

As the years have gone by and more trained surgeons competent in radical mastectomy have compiled their results, the five year survival in breast cancer has steadily improved. Sidney J. Cutler, Sc.D., Head of End Result Section, National Cancer Institute, has shown by reviewing the data from the Connecticut Tumor Registry from the decade of the Forties through the Sixties that the five year absolute survival in patients with cancer of the breast has increased from 50 percent to 65 percent.

One of the major criticisms of how the radical mastectomy has not been effective in the treatment of breast cancer is the assumed constant death rate per 100,000 women from breast cancer. The death rate from breast cancer in the United States, adjusted for changes in the age composition of the female popula-

*Director of Cancer Clinic, Medical University of South Carolina
Associate Professor, Department of Surgery

tion has decreased from 25.9 per 100,000 in 1939-1941 to 24.7 per 100,000 in 1964-1966. Information on the rate of cancer incidence is not available for the whole country but is available in Connecticut. The age-adjusted rate of cancer of the breast has increased from 55 per 100,000 in 1940-1944 to 72 per 100,000 in 1965-1968. Similar trends are reported from the comprehensive cancer programs in Saskatchewan, Canada. These contrasting trends between the rate of breast cancer incidence and the rate of mortality from breast cancer suggest there has been a real improvement in the medical management of breast cancers.[3]

The increase in the rate of incidence of breast cancer is not understood. The increased incidence is found predominantly in the urban female, which is an ever growing population. There certainly have been many changes in the urban female over the past thirty years:

(1) Menarche is now at 11 and 12 years of age rather than 14 or 15 years of age.

(2) Menopause is now often in the early fifties rather than the mid-forties.

(3) Women are nursing fewer children; and when the child is nursed, they are nursing the child for a shorter period of time.

Which one, if any, of the above listed factors is responsible for this increased incidence of mammary cancer is, of course, unknown.

As the death rate from breast cancer is diminished and the incidence of breast cancer increases, we then have two conclusions:

(1) The nature of breast cancer has changed and it is a less virulent disease than it was in the past,

OR

(2) The widespread application of the radical mastectomy with improved radiotherapy has improved the ability of the patient to survive.

One of the great students of diseases of the breast was the late Charles S. Geschickter, Professor of Pathology, Georgetown University Medical School. Certainly his book, *Diseases of the Breast*, published in 1943, remains a landmark for students of breast cancer. Within the volume is an indepth discussion of all the known diverse factors affecting breast cancer at that point in time. It was Geschickter's conclusion that when the breast cancer has not clinically gone beyond the confines of the breast, that "radical mastectomy is unquestionably the treatment of choice."[4] He also concluded that breast cancer had not changed its clinical course over the past seventy years. The five-year survival rate by surgery in operable breast cancer was 70 percent for patients without axillary lymph node involvement and the five-year survival was 25 percent in cases with axillary involvement. These figures were considered the maximum theoretic result that could be hoped for from the Halsted-Meyer operation in the best clinics in the 1940's.

The late Ian MacDonald first introduced the concept of biological predeterminism in human cancer in 1951. Dr. MacDonald had studied the remarkable variability in the behavior of breast cancer. He documented widely disseminated metastases from a minute, and on occasion even undiscoverable, primary cancer in the breast. Experienced clinicians are well aware that breast cancers can be very bulky and occupy most of the gland and yet be without regional nodal metastases. A patient with breast cancer may not manifest recurrence or metastases until more than thirty years after definitive surgical treatment of the primary complex. Unfortunately, there are acute carcinomas which erupt dramatically and are lethal within weeks after onset. Dr. MacDonald concluded from these observations that:

(1) The natural history of any neoplasm is an expression of a balance of power between tumor and host.

(2) This host tumor relationship is established long before diagnosis of the neoplasm is possible by physical examination.

(3) The factors that govern the invasiveness of neoplasm and the success of the host to control this invasion are unknown.

Because these unknown biological factors were considered responsible for the results of

therapy, the concept of biologic predeterminism was considered suitable for describing the course of breast cancer. Dr. MacDonald still felt that the radical mastectomy remained our best single therapeutic effort in the treatment of operable breast cancer.[5]

It is unfortunate that Dr. MacDonald's concept of biological predeterminism has been misinterpreted to infer that Dr. MacDonald espoused therapeutic nihilism in breast cancer. His awareness that the radical mastectomy had many defects and did not accommodate the diverse factors which influenced the invasiveness and doubling time of breast cancer represents a more sophisticated criticism of the radical mastectomy but is not too different conceptually from the criticisms offered by Rudolph Metas in 1894.

Current exponents of limited surgery on breast cancer describe immunologic phenomenon as adequate for residual cancer cells. There is no quantitative, reproducible evidence in humans with breast cancer for such a premise.[6] There is, however, a wealth of clinical studies documenting high recurrence rates and poor survival rates following such a therapeutic approach.[1]

Other physicians, properly impressed with the real advances of modern irradiation therapy, now return to the ancient, limited breast cancer resection and leave the burden of eradicating the remaining cancer cells to ionizing irradiation. There are no randomized, properly planned prospective clinical studies on patients with breast cancer to justify such a therapeutic regimen.[7]

The radical mastectomy offers cure rates in the patient with early clinical cancer as high as 85 percent. Lesser surgical procedures cannot possibly offer more, and very probably will provide a considerable bit less.

Megavoltage radiotherapy may well play a larger role in the treatment of primary breast cancer. However, the reports of needed studies to define the role of x-ray therapy are not available. The shortage of appropriately trained radiotherapists is so acute and resources so scant that, indeed, even if radiotherapy was proven to be competitive with surgery in the treatment of primary breast cancer, the majority of patients would have to be treated with surgery anyway.

There is much more needed to be learned of breast cancer. However, the declining mortality combined with an increased rate of incidence and a marked increase in the five year survival of the breast cancer patient has developed with the more widespread use of the radical mastectomy. Alternative methods of treatment vigorously espoused as being "just as good" are not proven. Those who claim we should, in our current state of limited insight into breast cancer, try other methods of treatment because nothing we do affects the rate of incidence and rate of mortality from breast cancer are uninformed.

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# THE MORBIDITY OF HUMAN ASCARIASIS

CHARLES P. DARBY, M.D. AND
MILTON WESTPHAL, M.D.*

**Synopsis**

The subject of ascariasis in the United States is reviewed and 23 cases of intestinal obstruction and 5 cases of Loeffler's pneumonia secondary to ascariasis are presented to illustrate the morbidity of this malady. The epidemiology of ascariasis is reviewed and the data presented clearly indicate that this disease is one of high prevalence among the children in the southeastern section of this country. Evidence is presented to indicate that ascariasis probably contributes to malnutrition. Four fatal cases of ascariasis are presented.

Perhaps the fact that ascariasis has not been considered a severe, crippling or fatal disease in this country may explain why more has not been done to bring the ubiquitous parasite under control. In many undeveloped countries throughout the world ascariasis is a very common disorder and, in some of these poorer nations, its mortality rate in small children is extremely high.[1] In the southeastern United States, intestinal infestation of children with Ascaris lumbricoides is very prevalent.[2-9] The purpose of this paper is to review some cases seen in a southeastern medical center which illustrate the morbidity and mortality caused by ascariasis and which suggest heavy infestation may intensify malnutrition.

**Clinical Data**

In the past three years there have been 23 patients admitted to the Medical University of South Carolina because of intestinal obstruction which resulted from a heavy infestation of ascariasis. (Table 1) The diagnosis was firmly established in each case by:

(1) The exclusion of other causes for intestinal obstruction.
(2) X-ray evidence of ascariasis.
(3) The presence of adult worms or ova in the stool or rectum.

Most of these patients had abdominal pain, tenderness, nausea, and vomiting. Several had vomited adult ascaris. Approximately one-half of the patients had some roentgenographic evidence of bowel obstruction manifested by distended loops of bowel and air fluid levels. In 14 of the 23 cases a bolus of worms was visible on the plain films of the abdomen. None of the patients was anemic and only six of the 23 had an eosinophilia of five percent or above. Only a few had leukocytosis. There were two who had bloody stools and four who had associated *Trichuris trichiura* ova present in the stools.

Five of the patients had enough symptomatology to warrant an exploratory laparotomy. In all of these cases a bolus of worms was discovered at surgery and in one case an associated volvulus was present. In each case the surgeon was successful in relieving the obstruction by milking the worms into the large intestine. There were no deaths.

Relatively poor nutrition was apparent in most of the children studied though none had any chronic illness which might account for poor growth. When the 22 for whom height and weight measurements were available were plotted on the Harvard anthropometric scale 17 were found to be in a weight percentile well below their percentile for height. The remaining 4 were in equivalent weight and height percentiles. (Figure 1) A group of 50 children of the same race and similar environment admitted over the same period of time

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for acute bacterial infections had points for weight percentile versus height percentile scattered as one would expect in the general population. Five of the 50 control children were obese and plotted above the 97th percentile.

The patients who did not come to surgery were treated conservatively with nasogastric suction, piperazine, and intravenous fluids. Some received piperazine enemas with questionable results. Most of the patients did not pass their worms until 48 hours following treatment with piperazine and some took as long as four days.

In addition to the 23 patients with intestinal obstruction, there were five patients admitted with ascaris pneumonia. These cases were characterized by the absence of a marked febrile response, presence of ascarid ovum or worms in the stool, an eosinophilia greater than 10 percent cough, hemoptysis, dyspnea, and, in some instances, chest pain. The chest x-ray films of these patients all revealed a diffuse, patchy infiltrate scattered in various areas of the lungs.

### Diagnosis

Acute obstruction due to ascariasis should be suspected in endemic areas when a child is vomiting and complains of abdominal pain. Usually the fever is slight and the distention not severe. The child may have a history of vomiting or passing adult worms in the distant or immediate past. Physical examination may reveal a soft, poorly delineated, abdominal mass. Plain x-ray films of the abdomen may show dilated loops of the intestine with fluid levels indicating obstruction. Often linear shadows cast by the worms are seen. Immediate microscopic examination of stool scraped from the rectal glove will generally reveal the ova and implicate ascariasis as the cause of the obstructive symptoms. Most patients do not have a significant eosinophilia.

TABLE I

SUMMARY OF CLINICAL DATA ON 23 PATIENTS

| | *Number* | *Percent* |
|---|---|---|
| Abdominal pain, nausea, vomiting | 22 | 96% |
| Rectal bleeding | 2 | 9% |
| Abdominal mass | 4 | 17% |
| Abdominal distention | 20 | 89% |
| X-ray evidence of worms | 14 | 61% |
| Underweight | 18 | 78% |
| Laparotomy | 5 | 22% |
| Eosinophilia—greater than 5% | 6 | 26% |
| Required over 48 hours after therapy to pass worms | 13 | 57% |

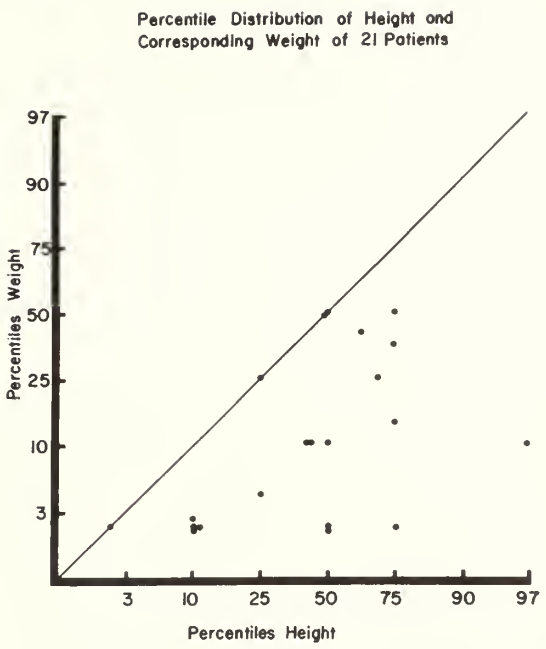



Figure 1.

## Comments

### Mortality

There were no deaths among the 23 cases of obstruction and five of pneumonia but there have been four deaths in this institution within the last 20 years that can be directly attributed to ascariasis. One of the deaths occurred in a two year old male who developed a profuse, bloody diarrhea. The patient vomited and passed large numbers of ascaris per rectum. Autopsy showed dilatation of the ileum with large numbers of ascaris. Another death occurred in a six year old male who was dehydrated after persistent vomiting. Shortly after admission the patient vomited a large bolus of worms containing 25 ascaris and then proceeded to go into cardiorespiratory arrest. The third death resulted from extensive peritonitis secondary to a

TABLE II

Complications Resulting from Ascaris

1. Appendicitis
2. Peritonitis (intestinal perforation)
3. Biliary obstruction
4. Pancreatitis
5. Volvulus
6. Intestinal obstruction
7. Liver abscess (supportive cholangeitis)
8. Loeffler's pneumonia
9. Obstruction of the bronchus
10. Malnutrition

gangrenous ileum twisted about a bolus of asearis. The final death occurred in a four year old male who was admitted because of aeute thermal burns. The child apparently vomited shortly after admission and aspirated a large adult ascaris. Autopsy revealed a large ascaris obstructing the trachea.

A review of the cases at the Armed Forces Institute of Pathology uncovered 38 cases of death directly attributed to ascaris.[10]

**Epidemiology**

Investigators studying various populations in the southeast have found the prevalence of ascariasis between 20 percent and 60 percent in the ehildhood population.[2-9] Most of these studies were done on young sehool-age ehildren and do not include the pre-schoolers. The highest incidence in most studies has been between the ages of 5 and 9 and highest in the more primitive rural areas such as Indian reservations and isolated primitive farming communities. However, many children who dwell in the cities are infected. In fact, ascariasis is present in epidemic proportions throughout the warmer regions of this nation.

Other than the usual sanitary reforms promoted by the Public Health Services, little has been done to study the overall incidence or to control ascariasis in the United States. All of the data on ineidence reported in the past 10 years is summarized in Table III and one can see that a sizeable proportion of the populations studied have ascariasis. In addition to these studies it was reported that in the year 1969 the South Carolina State Laboratory processed 26,489 stool specimens and found that 15 percent contained *Ascaris lumbricoides.*[6]

The adult worm lays about 240,000 eggs per day and these may remain viable in the soil for a number of years. The eggs incubate into an infective stage containing larvae and when ingested hatch in the stomach and small intestines. The larvae emerge from the eggs and penetrate through the intestinal wall into the portal veins or the intestinal lymphatics. They then migrate to the lungs, break out of the capillaries and into the alveolae. They then migrate up the tracheobronchial tree and pass into the esophagus and intestines where they develop into adult worms. It is felt that the infection is spread by children who, after playing with contaminated soil, bring the ova into the oral cavity by dirty hands or dirty objects. The children are the primary source of soil contamination. Although the ova are relatively hardy and may live up to 6 years, the sunlight and shifting of the soil should prevent the soil from being infective over a long period of

TABLE III

Incidence of Ascariasis

| *Author* | *Location* | *Number* | *Percentage Infested with Ascaris* |
|---|---|---|---|
| Pond, H.[9] | Cherokee, N. C. | 664 | 49% |
| Jeffrey, G. M.[2] | South Carolina | 212 | 63.7% |
| Lease, E. J.[3] | South Carolina | 131 | 48.1% |
| Lease, E. J.[3] | South Carolina | 884 | 21.9% |
| Fulmer, H. S.[8] | Kentucky | 366 | 31% |
| Atehley, F.[7] | Kentucky | 843 | 27% |
| Lease, E. J. (unpublished data) | South Carolina | 2,932 | 21.5% |

time. Probably infected children must be in the environment continually to provide fresh ova to the soil and perpetuate the spread.

**Malnutrition**

The concept that ascariasis contributed to the malnutrition of the host has been doubted and many feel that ascaris infestation is a benign symbiotic state. The evidence in Figure I that most of these severely infested patients were underweight strongly suggests that heavy ascaris infestation may contribute to malnutrition. Early descriptions of ascariasis pointed out that infested children had subnormal nutrition.[11] Correlational data cannot establish a causal relationship, however, there is evidence a causal relationship exists. Vankatachalam and Botwardhan, in 1953, carefully studied fecal nitrogen excretion in a small group of heavily infested children before and after helminthic therapy.[12] The nitrogen wasted in the stools decreased seven percent in the subjects studied after worms were eradicated. Tripathy[13] has found nitrogen wasting to a lesser degree but has also demonstrated impaired utilization of fats and carbohydrates.

A small percentage of the fecal nitrogen loss could be accounted for by the excretion of ascaris eggs, however, they postulated that the antienzyme factors produced by the worms may interfere with the protein digestion of the host. Ascariasis had been demonstrated to produce antitryptic and antipeptic enzymes and it is felt that these enzymes protect the worm from the digestive juices of the host.

Pig ascaris (*Ascaris lumbricoides* var. *suum*) have long been recognized by farmers and veterinarians to interfere with livestock production. Likewise chicken ascarides (*Ascarida galli*) reduce feed utilization efficiency in egg production.[14]

The evidence supports the concept that intestinal infestation of worms can contribute to the production of malnutrition and is not merely an associated finding. When a portion of the dietary protein is lost to the infested child who may already be receiving a diet which is low in protein, then the child suffers serious protein deficiency and malnutrition. Unfortunately, most of the heavily infested children come from a segment of our population which tends to eat diets low in protein.

**Loeffler's Pneumonia**

Loeffler's pneumonia is widely recognized as a manifestation of ascaris larvae migrating through the lungs.[15] The pathogenesis of the pneumonia is unclear. Since ascaris possess potent antigens, the eosinophilic interstitial pneumonia with cellular exudate and large infiltrates of eosinophilic leukocytes suggest a hypersensitivity reaction. A relationship of cosinophilia, ascariasis, hypersensitivity and allergic diseases has long been noted by clinicians but is still not clearly understood. A lack of pulmonary manifestations in many of the heavily infested children furthers the hypothesis that the individual host reaction is of primary importance in producing the clinical syndrome of Loeffler's pneumonia. Physical damage caused by the disruption of the alveolar walls as the larvae emerge into the air space may explain the small hemorrhages and hemoptysis.

**Treatment**

Patients with intestinal obstruction due to ascaris can usually be treated conservatively without surgical intervention. The patient should be started on intravenous fluids and nasogastric suction as early as possible. Piperazine in a dosage of 75 mg/Kg up to the maximum of 3 gm may be instilled into the nasogastric tube, flushed through with saline, and then the tube should be clamped off for a period of 1 to 2 hours. This process can be repeated every 8 hours until the obstruction is relieved and the patient passes the worms. It may require 2 to 4 days after the initiation of therapy before the worms appear in the stool. However, the symptoms from the intestinal obstruction usually improve sooner. Piperazine enemas do not seem to be of benefit.

Piperazine is an extremely safe drug and has been safely administered to millions of children. Occasional urticaria and, with excessively large doses, blurred vision and general muscle weakness have been reported. These symptoms clear with discontinuance of the drug. For the treatment of the non-obstructed patient, a dose of 75 mg/Kg up to 3

gm, given 3 to 5 consecutive days, is usually effective. The recurrence rate of ascariasis is rather high and many of the children are re-infected within 45 days following therapy.[5] It is postulated that these children harbor migrating larvae in their lymphatics, lungs and other organs at the time the piperazine is administered. Since piperazine is not absorbed from the gastrointestinal tract these larvae are not affected. They continue through their normal life cycle and in less than 45 days are back in the gastrointestinal tract in the adult form producing more ova. It is therefore suggested that within 45 days of the initial course of therapy the child should receive a second course of piperazine and recent data suggests that a third course may be necessary.

Thiabendazole, a newer anthelmintic with a wide spectrum of activity, is highly effective against enterobiasis, cutaneous larva migrans, ascariasis, uncinariasis and trichiuriasis.[16] It is absorbed from the intestines and is known to be effective against larva migrans in the skin,[17] and the liver.[18] Thiabendazole appears relatively safe, however, it has not yet had the massive clinical use of piperazine. Mild side effects such as anorexia, vomiting, nausea and dizziness have been seen, but there have been no serious complications associated with its use. The recommended dose is 10mg/Kg b.i.d. for 2 successive days. It is not yet known whether thiabendazole can destroy ascaris larvae in the extra-alimentary phase.

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# PESTICIDE MORBIDITY IN SOUTH CAROLINA, REVISITED

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## Introduction

The first attempt to establish accurate pesticide morbidity statistics was undertaken by Keil, et al[1] utilizing a physician survey. Prior to this time, morbidity figures were obtained from agencies such as the South Carolina State Board of Health, U. S. Department of Agriculture, and Poison Control Centers in Columbia and Charleston,[2] and were found to be grossly inaccurate when compared to the physician surveys.

Since the last survey, a great deal of public concern has been focused on the environment, with pesticides one of the major targets. Because of this concern, the use of a number of chlorinated hydrocarbons such as DDT have been restricted, thus causing increased usage of more acutely toxic organophosphate pesticides.

The purpose of this follow-up study was to examine changes in pesticide morbidity or distribution of poisonings since the earlier survey.

It was anticipated that this re-examination might also evaluate possible effects on poisonings of newly enacted pesticide restrictions, increased public awareness of pesticide hazards, and greater usage of organophosphates.

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## Methods

One thousand one hundred and twenty-seven practicing physicians who were in a specialty or practice that would bring them in primary contact with acute pesticide poisonings were selected for this survey. A letter was sent to each of these physicians explaining the objective of the survey and requesting their cooperation. The questionnaire was in the form of a stamped, addressed post card requesting the following information:

1. The number of pesticide poisoning cases treated or seen in the last 12 months.
2. The opinion of the physician on whether pesticide poisonings are increasing, decreasing or remaining the same.
3. Additional remarks if desired.

This questionnaire was identical to the one used in 1969 to allow accurate comparison.

## Results and Discussion

Of 1127 practicing physicians queried, 688 reported they had treated or seen 627 cases of pesticide poisoning in the 12 months ending July, 1971. This compares with 572 poisonings reported by 667 practitioners in 1969. Thirty-nine per cent of the respondents thought that pesticide poisonings were staying about the same while 20 per cent indicated a decrease and only 6 per cent believed there was an increase. Thirty-five per cent indicated no opinion.

Table 1
Pesticide Poisoning by County
1969 vs 1971

| *County* | *No. Cases Reported* | *Difference from 1969* | *County* | *No. Cases Reported* | *Difference from 1969* |
|---|---|---|---|---|---|
| Abbeville | 13 | +12 | Greenwood | 12 | +06 |
| Aiken | 20 | +18 | Hampton | 12 | +11 |
| Allendale | 2 | —18 | Horry | 54 | 0 |
| Anderson | 13 | +04 | Jasper | 1 | +01 |
| Bamberg | 8 | +03 | Kershaw | 9 | —02 |
| Barnwell | 13 | +12 | Lancaster | 3 | +01 |
| Beaufort | 14 | +03 | Laurens | 10 | +06 |
| Berkeley | 6 | +03 | Lee | 3 | —03 |
| Calhoun | 1 | —09 | Lexington | 24 | +02 |
| Charleston | 22 | +10 | Marion | 56 | +37 |
| Cherokee | 7 | —03 | Marlboro | 8 | +03 |
| Chester | 8 | +06 | McCormick | 0 | 0 |
| Chesterfield | 1 | —04 | Newberry | 2 | +02 |
| Clarendon | 18 | +08 | Oconee | 6 | —17 |
| Colleton | 13 | +08 | Orangeburg | 49 | +19 |
| Darlington | 13 | —09 | Pickens | 10 | +08 |
| Dillon | 11 | —03 | Richland | 26 | 0 |
| Dorchester | 0 | —04 | Saluda | 2 | 0 |
| Edgefield | 4 | —04 | Spartanburg | 41 | +20 |
| Fairfield | 9 | —03 | Sumter | 18 | +14 |
| Florence | 35 | —19 | Union | 0 | —01 |
| Georgetown | 3 | +02 | Williamsburg | 02 | —10 |
| Greenville | 32 | —40 | York | 13 | —15 |
| | | | Total | 627 | +55 |

Table 1 gives the incidence of pesticide poisonings by county. The leading counties were Marion, Horry, Orangeburg, and Spartanburg Counties showing the greatest increase since 1969 were Marion, Spartanburg, Orangeburg and Aiken. Greenville, Allendale, Oconee and York Counties led the State in decreased incidence. Figure 1 gives distribution by congressional district. Consistent with the previous study, was District VI showing the highest incidence.

Analysis of the data in Table 2, indicates little difference in overall State rates between 1969 and 1971. There is, however, a rate shift between congressional districts, with Congressional District III increasing its rate by 9 cases per 100,000. This increase may be due in part to increased response from physicians in this area. District VI, which has the highest rate of all (48), has shown no significant fluctuation in rate since 1969 and continues to lead the State in production of corn, cotton and tobacco.[3] The latter two crops require intensive pesticide use for maximum production.

The most frequent comment made by participating physicians was that the public was now more aware of the dangers of pesticides and used them with more caution.

While 55 more cases were reported in 1971 than in 1969, it is thought that physicians' indices of suspicion may have increased because of their greater awareness of pesticide hazards in South Carolina.

The existence of a status quo for the rate of pesticide poisoning within South Carolina in the face of more restricted pesticide usage suggests that that portion of the population

dealing with pesticides is still not completely aware of the hazards of pesticide toxicity, are ignoring handling instructions, and using the pesticide for purposes not intended. To illustrate this, two case studies have been selected.

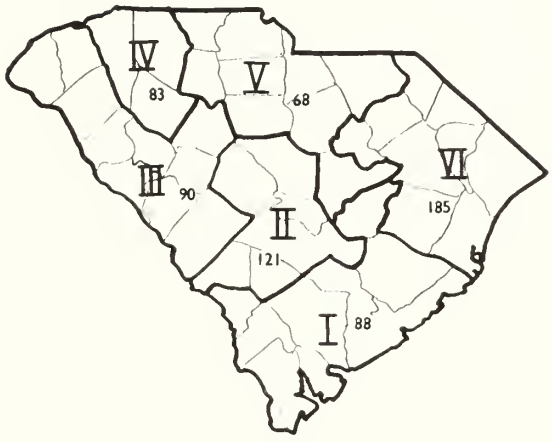
**Case I**

A nine month old negro male was transferred from his local hospital to MUH for a seizure disorder. The child had apparently been in a good state of health until 17 days prior to admission when he began to have nausea and vomiting with diarrhea. On the fourteenth day prior to admission, the patient awoke in the middle of the night crying, "foaming at the mouth" and "shaking all over". He was admitted to the local hospital in a comatose condition and was treated with Lincomycin and Chloramphenicol for right upper lobe infiltrate and/or atelactasis. At this time, the patient was also treated for acute gastroenteritis. No further seizure activity was noted, and he was discharged one week prior to admission. He did well following his discharge until one day prior to admission, when, at approximately 7:00 P.M., he began to cry, "foam at the mouth", and "shake all over" with both fecal and urinary incontinence. The eyes "rolled up and down" representing questionable verticle nystagmus. Seizure activity lasted a minimum of 15 minutes, and was controlled by an unknown injection on admission to the local hospital. The patient was found to be unresponsive, and both pupils were noted to be pinpoint. The patient was then transferred to MUH for further evaluation.

Family History: The father is a farmer who used pesticides for his cotton crop. The mother also used these insecticides in the house to kill roaches. It is believed the patient came into contact with the insecticide as he crawled on the floor. The patient has one sibling 3 years old who is living and well.

FIGURE 1

NUMBER OF PESTICIDE POISONINGS BY CONGRESSIONAL DISTRICTS




Physical examination revealed a well developed, well nourished colored male who was obtunded and listless with temperature of 105.4° per rectum, respiration 40/min and heart rate of 240/min. Pinpoint pupils were noted with extraocular motility intact. The neck showed some resistance to anterior flexion, deep reflexes +2 bilaterally and Babinskis not present. Extremities had full range of motion and no sensory or motor disturbances were determined.

Initial pesticide studies showed a plasma cholinesterase level of 0.88 micromoles/min/ml (normal 2.2-5.2 u moles/min/ml) and a RBC cholinesterase of 4.55 micromoles/min/ml (normal 8.4 to 16.0 u moles/min/ml). The patient was given PAM 350 mgm IV diluted in 60 cc's of saline over a one hour period with a marked increase in muscle strength noted. Blood drawn 4½ hours after PAM therapy

Table 2

Pesticide Poisonings Per 100,000 Population*
by Congressional Districts
1969 vs 1971

| *Congressional District* | *Rate/100,000 Population* 1969 | 1971 | *Difference* |
|---|---|---|---|
| I | 14 | 18 | +04 |
| II | 22 | 28 | +06 |
| III | 12 | 21 | +09 |
| IV | 21 | 18 | —03 |
| V | 18 | 17 | —01 |
| VI | 49 | 48 | —01 |
| State | 22 | 25 | +03 |

*Population based on 1970 U. S. Census

showed plasma cholinesterase of .68 u moles/min/ml and RBC cholinesterase of 4.2 u moles/min/ml. A lumbar puncture showed spinal fluid within normal limits. Cultures of rectum, throat, spinal fluid, blood and naso-pharynx were all negative. EEG tracing showed no definite focal abnormality or seizure activity. Blood chemistry revealed BUN 45 mg percent, glucose 164 mg percent (after IV glucose), liver function studies within normal limits, serum calcium 9.7 mg/100 ml and serum phosphorus 8.4 mg/100 ml (normal range for infants in first year up to 6.0 mg/100 ml).

The patient's hospital course was essentially uncomplicated after early stabilization. On the day after admission he was afebrile and tolerated his diet well. He remained active and alert, with good muscle strength throughout the hospitalization.

On the fourth day after admission, plasma cholinesterase was 2.34 u moles/min/ml and RBC cholinesterase was 1.72 u moles/min/ml. A sample of the suspected pesticide obtained from the father showed methyl parathion — 20.0 per cent and ethyl parathion 37.7 per cent. The patient was then discharged to the care of his family physician, with the diagnosis of parathion and methyl parathion poisoning.

A three month followup reports the infant to be asymptomatic and thriving well.

### Case II

The following history was obtained from a number of sources of good reliability.

A young negro male who was employed at a pesticide formulation plant had been emptying 50 pound bags of 15 per cent wettable powder Parathion into a small bag hopper and was seen using his bare hands to smooth the pile. He wore no protective clothing and was attired only in short sleeved shirt, trousers, shoes and socks, and no hat. Later that afternoon he complained of a pain in his side along with feeling weak and tired. It was noted that he was wet with perspiration. He was urged to bathe and change his clothes, but he refused and went home early without washing. At 10:30 that evening he was seen by a friend who got some orange juice for him. He was next seen around 7:00 A.M. lying across his bed, dead.

Gross autopsy revealed only miosis and acute pulmonary edema. However, toxicology reports showed a whole blood cholinesterase level of 0.62 u m/min/ml (normal for RBC 8.4-16 u m/min/ml) in a blood clot from the heart, a level of 68.63 ppb of parathion in the brain, and 105.8 ppb paranitrophenol, a breakdown product of parathion, in the urine. It was also noted that the blood analysis done two and four months prior to death showed significant lowering of whole blood cholinesterase levels.

These toxicology values along with history and post mortum findings were all consistent with acute parathion poisoning.

## Summary and Conclusions

A post card survey of 1,127 South Carolina physicians to determine incidence of pesticide morbidity indicated 627 cases of acute pesticide poisoning in a 12 month period. Although this was 55 more cases than the 1969 survey, the rates changed very little for the state overall. However, Congressional District III increased in rate significantly since 1969. Congressional District VI still had the highest rate, being almost twice as great as the state rate. Thirty-nine per cent of the respondents thought that pesticide poisonings were staying the same while 20 per cent indicated a decrease and 69 per cent believed there was an increase.

Acute pesticide poisoning is not the rarity it was once thought to be with the incidence in the same range as tuberculosis or syphillis. The recognition of this fact is important to the physician who must make the diagnosis. To aid the physician, the South Carolina Pesticide Program provides diagnostic services not available in many parts of the state. The Medical University in Charleston* provides diagnostic tests such as blood cholinesterase and a screen for organophosphates and hydrocarbons, as well as consultation for diagnosis and treatment. Through better education of the public as well as physicians, it is hoped that a decrease in both pesticide morbidity and mortality may be seen soon.

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# CLINICOPATHOLOGICAL CONFERENCE OF THE MEDICAL UNIVERSITY OF SOUTH CAROLINA

## "61 YEAR OLD MAN WITH WASTING AND BILATERAL PULMONARY INFILTRATES"

CLINICIAN: DR. ALLEN JOHNSON
RADIOLOGIST: DR. CHARLES GRIFFIN, JR.
PATHOLOGISTS: DR. WILLIAM A. GARDNER
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A 61 year old Negro male was admitted to the Charleston Veterans Administration Hospital on October 28, 1970 with a two month history of gradually increasing dyspnea on exertion and generalized weakness. Concomitantly he had experienced a fifty pound weight loss. Three weeks prior to admission the patient had the insidious onset of a nonproductive cough, sporadic dizziness, and right anterior pleuritic chest pain.

Past history revealed no known exposure to toxic industrial compounds or tuberculosis. He had pneumonia once as a teenager without sequelae and had a two year history of hypertension without treatment. Until the onset of this illness he had worked as a bakery delivery truck driver between Charleston and Savannah, Georgia. He also gave a history of moderately severe alcoholic intake.

Physical examination on admission revealed a thin, chronically ill appearing Negro male in moderate respiratory distress with a blood pressure of 120/70, regular pulse of 90, oral temperature of 98.8°F, respiratory rate of 30 and a weight of 107 pounds. Pertinent positive physical findings included: bilateral basilar, crepitant rales (right greater than left) without consolidation, a II/VI systolic ejection heart murmur heard best along the left sternal border without radiation, and a minimally palpable nontender liver. There was no evidence of cyanosis or clubbing.

Leucocyte count on admission revealed 12,200 neutrophiles with slight left shift. Hemoglobin 11.2 gm percent and hematocrit 35 percent. Urinalysis was normal. Electrolytes, blood urea nitrogen and fasting blood sugar were normal. Direct smear of sputum for acid fast bacilli and potassium hydroxide preparations for fungi were negative. Liver function tests on October 29 including bilirubin, total protein, alkaline phosphatase, and transaminases were within normal limits. Serum calcium and phosphorus were normal. On November 3 blood gas studies revealed a pH of 7,490; $PO_2$ of 64.2; $PCO_2$ of 34.0; and $O_2$ saturation of 93 percent. Sputum smear revealed numerous leucocytes, Gram-positive rods, and Gram-positive cocci in pairs and tetrads; culture

grew Alpha Streptococcus. A repeat leucocyte count revealed 15,600 neutrophiles with left shift, hemoglobin of 12.3 gm percent and hematoerit of 39 pereent.

Cytological examinations of the sputum on three occasions were negative. Chest x-ray examination on admission revealed "an extensive pneumonic infiltrate in both lower lung fields and calcification of the aortic arch". Spine films revealed osteoarthritis of the thoracic segment and osteoporosis of the lumbar segment. Repeat chest films six days later revealed "bilateral pneumonitis, essentially unchanged".

The patient was treated initially with oxygen as needed, bedrest, positive pressure breathing and Robitussin. On November 7 the patient had two bouts of severe, nonradiating, left chest pain with moderate dyspnea. Chest x-ray films revealed a 30 percent left pneumothorax. Chest tubes were inserted with some technical diffieulty, and the pneumothorax progressed to a mild left hydropneumothorax. This was gradually relieved. Due to violation of the chest space on three occasions the patient was started on Ampicillin 500 mgm by mouth four times daily on November 10. Pulmonary medical consultation was obtained and it was felt that vigorous antibiotie therapy, combined with bronchodilators, and positive pressure breathing should be used and if no improvement in one week, then open lung biopsy be performed. Diagnoses entertained were congestive heart failure with chronic obstructive pulmonary disease, viral pneumonitis, alveolar proteinosis, and alveolar cell carcinoma. During his entire hospitalization the basilar pneumonitis did not change; however there was good re-expansion of the left lung. He then gradually deteriorated with daily fever spikes to 101°F and increasing dyspnea. PPD, histoplasmosis and blastomycosis skin tests were negative. Prednisone and isoniazide therapy was started on November 13 with no improvement. The patient's weight on admission was 107 pounds and on November 14 was 93½ pounds. The patient expired unexpectedly 20 days after admission.

**Dr. Johnson:** A 61 year old Negro male was sick for approximately two months with symptoms of dyspnea and generalized weakness. He had lost about fifty pounds. Three weeks prior to admission to the Veterans Administration hospital in October he noted a non-productive cough and right pleuritic chest pain. There seems to be no significant past history. The pertinent physieal findings were that he was thin, chronically ill and in some respiratory distress with a respiratory rate of 30 per minute. There were bilateral basilar, crepitant rales and he had a 2/6 ejection systolic murmur along the left sternal border. He had no cyanosis and no clubbing.

Pertinent laboratory information was a hematocrit of 35 with 12,200 leucocytes with a shift to the left. Smears of the sputum were negatve for acid fast bacilli and fungi and bacterial cultures grew normal flora. The PPD and skin tests for blastomycosis and histoplasmosis were negative. Liver function tests were within normal limits. Arterial blood gases revealed a $PO_2$ of 64.2; and $PCO_2$ of 34.0. The x-ray films of the chest revealed a diffuse bilateral infiltrative process in both lower lung fields. We will ask Dr. Griffin to help us with his interpretation of the chest films.

**Dr. Griffin:** The first film on the 28th day of October, at the time of his admission was followed by a series of films until the 17th of November shortly before he died. Actually, throughout this period there is virtually no change in the appearanee of the chest, with one exeeption, and that is that on the 6th of November he developed a left pneumothorax. Throughout the study we see a diffuse infiltrative process primarily through the lower lung fields which has the appearence of an alveolar infiltrative process. We think about a number of things when we see a pattern like this. The first would be a very marked diffuse pneumonia, but he had been siek a long time and we see no change in three weeks so that we can discount any usual type of pneumonia, bacterial or viral. We then go to some of the more unusual things and with a pattern like this we would consider pulmonary alveolar

proteinosis. This produces a very diffuse alveolar pattern and frequently the individual is clinically not nearly as sick as he appeared radiographically. Certainly this is the situation here, for from the appearance of these films we are surprised that he even walked into the hospital. This pattern is also consistent with pulmonary edema, but I think we can eliminate this in view of the longstanding situation. In Goodpasture's syndrome the patient gets alveolar infiltrates like this but this is a disease usually in young men and related to renal disease. This man is neither young nor do we have any indication of renal disease so this is highly unlikely. Another entity has been described recently, hyaline membrane disease in the adult, of obscure etiology but sometimes related to chronic respiratory illnesses or possibly linked to oxygen therapy. In any event as this was present when he came into the hospital the latter is eliminated, but hyaline membranes could have developed as a complicating factor of some long term pneumonic infection. Hemosiderosis might give a somewhat similar appearance. Another quite unusual entity which I think we have to give very serious consideration is infestation by pneumocystis carinii. This infection will produce this very diffuse alveolar infiltrative process which shows little change over a period of time and often gives a pulmonary appearance which appears worse than the actual clinical appearance of the patient. In summation, I think the two things that I would put first as most likely radiographically are, first, pulmonary alveolar proteinosis and, second, pneumocystis carinii.

**Question:** What about scleroderma?

**Dr. Griffin:** Scleroderma would not give an appearance like this. Scleroderma might produce serositis and interstitial thickening but would not fill the alveoli with some type of fluid or proteinaceous material which is occurring almost throughout both lower lung fields.

**Question:** Does disseminated sarcoidosis give you this type of appearance?

**Dr. Griffin:** No, disseminated sarcoid is a granulomatous pneumonitis and it will give multiple tiny nodular densities throughout the lung fields but this is a fluffy intra-alveolar exudative process.

**Dr. Johnson:** His hospital course is described and as there was difficulty in placing a chest tube, he developed a left hydrothorax. He was placed on Ampicillin for coverage. I question this simply because with penetration of the skin certainly staphylococcus would be the logical infecting agent and Ampicillin is effective only against non-pellicinase producing staphylococci. Pulmonary service consultation recommended open lung biopsy. Their diagnoses at that time were congestive failure with chronic obstructive pulmonary disease, viral pneumonia, pulmonary alveolar proteinosis and alveolar cell carcinoma. It was noted that the patient had fever present daily, beginning two days after admission and continuing until death. He had increased dyspnea, deteriorated, and continued to lose weight without response to prednisone and isoniazide. No one seemed to know the diagnosis the time he died, twenty days after admission, I think it is of the utmost importance with this type of process to decide just how sick the patient is. After you have done preliminary studies and haven't come up with a diagnosis the next step is to do a lung biopsy. This is especially true with someone who is ill and has fever because it may be due to numerous things that might be treated. This man had lost about 50 pounds, he obviously was deteriorating, he was dwindling away. I think he should have had a lung biopsy as soon as possible; his $PO_2$ was decreased which would go along with infiltrative process, but his $O_2$ saturation was up to around 90 percent so he probably should have had a lung biopsy at that time. Liver biopsy is frequently helpful in the diagnosis of miliary tuberculosis. This patient was started on anti-tuberculous therapy which I agree with. The problem of differential diagnosis in such a case is a vast one. You have to consider bacterial and viral diseases, both of these being unlikely from the chronicity of the course. Certainly it would be most unusual for the commonplace

bacteria to produce this picture. Viral diseases such as herpes or varicella pnuemonia would be rare in the absence of immunosuppressive therapy or fairly obvious malignancy. An allergic manifestation does not seem reasonable. There is no history of allergies and no known occupational exposure. The disease certainly was progressive while he was in the hospital and away from his usual environment. Fungal disease certainly has to be considered and cryptococosis certainly would be most likely in this patient with this type of illness. The other fungal diseases such a histoplasmosis could posssibly produce this picture, but cryptoeoccus is the choice if its a fungal disease. Inhalation diseases are not supported by any history. Collagen diseases such as periarteritis and scleroderma certainly are possibilities, but would probably produce a different type of infiltration. Lymphangitic carcinomatosis needs to be considered in this patient. Occult tumors of thyroid, bronchus, breast, kidney and gastrointestinal tract may spread to lung and the primary not be discovered by routine procedures. Miliary tuberculosis will fool you sometimes and you will miss this diagnosis. I agree that in patients that are deteriorating and have pulmonary involvement, regardless of your impression, and even without the appropriate x-ray picture should be covered with anti-tuberculous therapy as this patient was late in his illness. I wish to mention several points about diagnosing fungal pneumonia, cryptococcus being the most likely in this case. Most physicians think that after they have done the blasto, histo and coccidial skin tests and sent one sputum over for organisms that they have done a fungal work-up. Cryptococcus has no skin test to begin with and it is difficult to diagnose any of the fungal diseases by skin tests when they are disseminated because frequently the tests will be negative so that one needs to have a tissue diagnosis. One must have a biopsy or repeated cultures most of the time to make a diagnosis. Also be sure to draw a tube of blood for serology before doing a skin test because a skin test will often elevate the titer. We have to consider infection by pneumocystis carinii next. This is a very interesting disease probably a parasite. In recent reviews at the National Institutes of Health this was the most common cause of pneumonia in patients who were receiving immunosuppressive therapy. It can only be diagnosed in an adult by biopsy of the lung with special stains. We don't have any evidence in this patient of altered host resistance, but he might have a malignancy somewhere or he may have had some other immunological problem that we have not uncovered. The reason for emphasis on this disease is that treatment is available. Pentamidine isethionate has been an effective treatment at the National Institutes of Health. Their patients who have diffuse infiltrative pneumonia on whom a lung biopsy cannot be done for whatever reason are started on pentamidine isethionate along with therapy for miliary tuberculosis. They don't wait to do a biopsy. We might mention that some cases in children have been diagnosed by methenamine silver stains on tracheal aspirates. It would be unusual to have this disease in a patient who had not had immuno-suppressive therapy or did not have altered host resistance, but it has occurred. There has been an episode of two individuals in one family to die with pneumoeystis pneumonia whom so far as could be determined had no immunological problem. Histiocytosis X or eosinophilic granuloma has to be considered in this case. However, it usually involves the upper lobes and is more common in women. Pneumothorax is common in this disease and this patient did have episodes of pain, probably on the basis of recurrent pneumothorax. Although this is probably not the diagnosis, it is worthy of mention. Hamman-Rich syndrome or necrotizing alveolitis has to be included in the differential diagnosis. It begins like this in the lower lobes and occurs in the 40 to 60 age group. Usually such patients have more hypoxia or cyanosis than this patient had. Sarcoidosis usually produces a nodular pattern but I have seen it produce an alveolar pattern without any hilar lymph

node involvement. Certainly this could be one of the presentations of sarcoidosis. Alveolar proteinosis certainly has to be considered in the differential diagnosis. The x-ray films suggest pulmonary edema except the heart was not enlarged and there is no pulmonary vascular congestion. The oldest patient with alveolar proteinosis entered in the literature was 72, most of them were much younger. This disease is predominantly of Caucasians although twelve Negroes have had the disease, so I think it must be mentioned. Desquamative interstitial pneumonia produces recurrent pneumothorax but patients with this disease usually do not have fever, and do not pursue the kind of course this patient had, but it is a possibility. Only three cases of exfoliative broncho-alveolar disease have been reported. These patients have recurrent pneumothorax and present as disseminated interstitial pneumonia with fever, chest and back pain. Several of those reported declined and died after being placed on cortico-steroid therapy. Cytomegalic viral pneumonia is certainly a disease to be considered in patients receiving immuno-suppressive therapy. It usually occurs in combination with another disease, frequently in combination with pneumocystis pneumonia and we might have both of of those. The rare disease diffuse lymphocytic pneumonia, or so-called pseudolymphoma of which about five cases have been reported causes recurrent pneumothorax. My choice in this patient is pneumocystie carinii pneumonia possibly complicated by cytomegalic virus inclusion disease or toxoplasmosis. The patient probably had some type of immunologie problem, but I am sure that the nature of this is going to be established by the autopsy findings.

**Dr. Gardner**: Are there any comments or questions from the staff or students?

**Student**: Please comment on the possibility of Wegener's granulomatosis.

**Dr. Johnson**: **Wegner's** usually produces a characteritsic cavitating nodularity on x-ray examination with clinical and laboratory evidence of renal involvement.

**Dr. Gardner**: Dr. Blanding will present the autopsy findings.

**Dr. Blanding**: FINAL PATHOLOGICAL DIAGNOSES: PNEUMOCYSTIS CARINII PNUEMONIA. CYTOMEGALOVIRUS INFECTION OF LUNGS. FAHR'S DISEASE OF BRAIN.

The main pathologic changes in this patient were limited to the lungs and brain.

Upon opening the thoracic cavity there were no pleural effusions or adhesions. The lungs did not collapse and were firm to palpation. The combined weight of the lungs and lower trachea was 2980 grams. There were no thrombo-emboli within the pulmonary vasculature. Opening the major airways revealed no evidence of pulmonary edema or bronchitis. The parenchyma cut with moderate resistence, particularly in the lower lobes, and the basal portions of the upper lobes. Cut surfaces were pink to tan, dry, and granular and no exudate could be scraped from the surfaces. (Figure 1)

Low power microscopic evaluation demonstrated large amounts of intra-alveolar exudate, and conspicuously thickened alveolar septae. (Figure 2) The exudates were foamy or "honey-combed" in appearance and usually separated from the alveolar septae by a clear space. There was a conspicuous absence of inflammatory infiltration of the supporting stroma. (Figure 3)

Numerous pneumocytes contained large intra-nuclear inclusions consistent with an

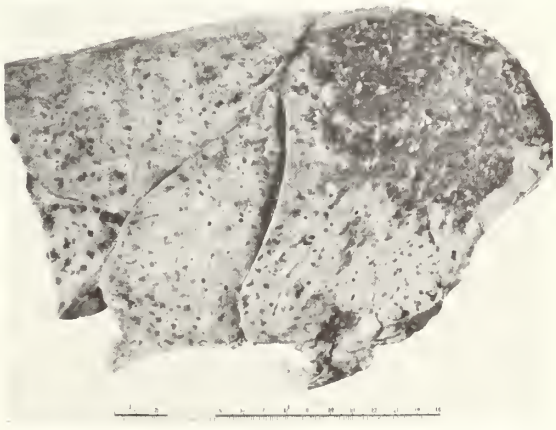


**Figure 1. Photograph of cut surface of right lung. Note the sharply demarcated, affected areas.**

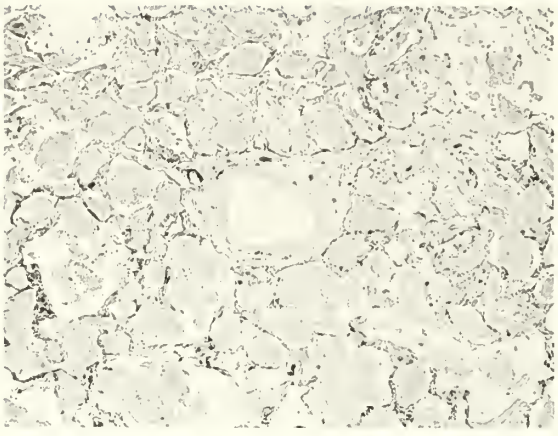


Figure 2. Low power view of right lower lobe. Note the marked intra-alveolar exudate and the thickened alveolar septae. H&E x 50.

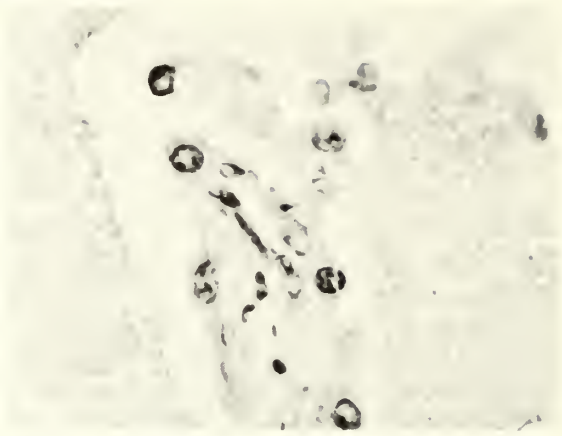


Figure 3. High power view of foamy alveolar exudate and thickened septae without inflammatory response. H&E x 300.

anatomic diagnosis of cytomegalovirus infection. (Figure 4)

Special stains revealed the intra-alveolar exudate to be strongly PAS positive and a methenamine silver stain showed the characteristic organisms of Pneumocystis carinii. (Figure 5)

Pulmonary infection with pneumocystis is usually related to depression of the reticuloendothelial system and has usually been described in association with malignancies of that system or concomitantly with the use of immunosuppressive therapy.

Clinically, most infections start insidiously with a nonproductive cough, and without other toxic symptoms. There is no age or sex predominance. Pulmonary function studies reveal a decreased compliance with an alveolar-capillary block. A diagnosis is rarely accomplished by sputum examination or needle biopsy. However, open lung biopsy with the use of touch preparations has yielded excellent results.

The nosobiologic classification of pneumocystis is unknown due to the fact that it cannot be cultured and the modes of transmission have not been elucidated. Most authors feel the organism is protozoan due to its morphology and ubiquitous distribution in the animal world.

Grossly the lungs have been heavy and without evidence of pleural reaction. The apices are usually spared. The lower lobes have a rubbery consistency, and cut surfaces are dry and granular with skip areas of uninvolved lung tissue. Microscopically the alveoli are filled with a foamy exudate, and have walls which are thickened and without inflammatory response. Special stains demonstrate the 4-6 micron oval to crescent shaped organisms. Electron microscopy have shown the cysts to contain 3 to 6 intracystic bodies, each containing a presumed "nucleus" and "mitochondrion". Cytomegalovirus has been frequently seen in combination with the Pneumocystis organisms and symbiosis between the two has been proposed. Chemical analysis of lung tissue has revealed a decrease in total protein (particularly collagen and elastin) and a decrease in lipids (cholesterols).

Externally the brain did not reveal abnormalities, however on multiple coronal sections, bilateral areas of dense calcification were noted in the basal ganglia and dentate nuclei of the cerebellum. Microscopically the calcium deposits were primarly located within oligodendroglia. Thus a diagnosis of non-arteriosclerotic calcification of the basal ganglia and dentate nuclei (Fahr's Disease) was established.

**Dr. Gardner:** I would like to invite any retrospective comments, particularly following such a perceptive, accurate clinical diagnosis.

**Dr. Kelly McKee:** The autopsy diagnosis emphasizes the necessity for lung biopsy in

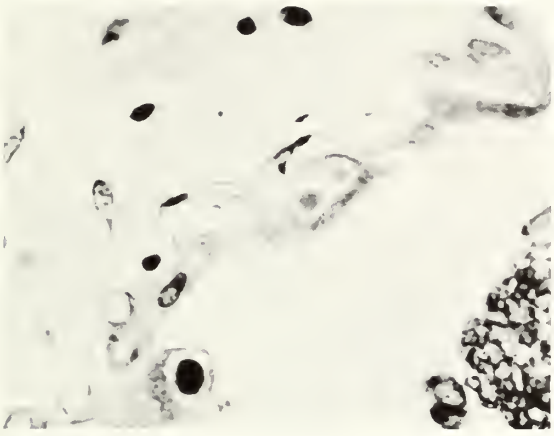


**Figure 4. High power view of alveolar septum showing pneumocytes with intra-nuclear inclusions of cytomegalovirus. Note the absence of inflammatory change. PAS x 300.**

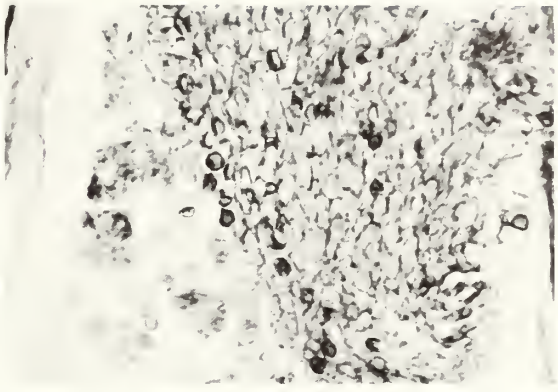


**Figure 5. High power view of exudate showing the characteristic oval and crescent shaped organisms of Pneumocystis Carinii. Methenamine Silver x 600.**

such a case. Dr. Johnson, what is the survival rate with appropriate therapy?

**Dr. Johnson:** It is better than 50 percent.

**Dr. Gardner:** We did not find an immunological problem at autopsy. Of course, morphologic evidence for known immunological deficiencies may not be forthcoming from a tissue standpoint.

**Dr. Stuart Richardson:** Certainly in hematology there is essentially no correlation between the IgG and pneumocystis pneumonia. The bulk of the cases who have developed pneumocystis pneumonia have been children with acute leukemia under therapy or the occasional case of terminal Hodgkin's Disease in the lymphocytic depletion stage. We rarely if ever have an untreated case of myeloma for instance who develops pneumocystis infection. We could expect this sort of complication to develop in a patient with a poor cellular reaction rather than an IgG deficiency.

**Dr. Kelly McKee:** Is the absence of inflammatory exudate in the areas of pneumocystis infection an indication of reticuloendothelial or bone marrow deficiency?

**Dr. Gardner:** I believe it would be generally so regarded, although there are other various organisms that characteristically call forth very little inflammatory response. This patient had a good leucocyte response as reflected in the blood count and the bone marrow was normal.

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# President's Page



## Toward More Family Practitioners

Let it be noted that while this page deals with the Medical University of South Carolina, it falls outside of the troubled field of controversy of which all readers must be aware. Its purpose is to call attention to the very worthwhile efforts to provide more special training aimed specifically at providing family practitioners primarily for the state, but also for whatever areas they might choose.

A little over a year and a half ago the family practice residency programs were established in South Carolina, under the direction of Dr. Hiram Curry. Expansion of activity is already taking place at Greenville and Spartanburg, and talks are under way to initiate a program at Columbia. The rise in popularity of the family practice programs has been meteoric. The Medical University's program, a national model, now is authorized to train 36 residents, and has become the largest in the nation. Greenville is approved for 27 residents, and Spartanburg is allotted 24. Each program has a local director and an assistant who hold faculty appointments in the Department of Family Practice at the Medical University of South Carolina. The addition of training of physician assistants will add another facet to the activity.

At present there are 15 residents at the Medical University. By July there will be 30. One will graduate then. Many applications from excellently qualified candidates have been received. Expansion of activity is limited at present to some extent by the lack of suitable faculty members. Since it is recognized that residents tend to remain near the place in which they receive their training, the prospects for the areas adjacent to the training centers seem to be promising.

The physicians who undergo this experience all seem to have the quality of desiring a personal relationship with patients and an identity with a community. This trend has been encouraged by the establishment of local foundations which furnish funds for a prospective doctor's education in the form of long term loans without interest and endeavor during the course of study to have the individual physician identify himself with a specific community.

As the old type of general practitioner declines, this new breed of family physicians will offer an improved and badly needed service to the people of South Carolina.

Joseph I. Waring, M.D.



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**Precautions:** To avoid oversedation, use lowest effective dose, particularly in elderly and/or debilitated patients. Con- sider possibility of suicide attempts; dis- pense least amount of drug feasible at any one time. To avoid excess accu- mulation, use caution in patients with compromised liver or kidney function. Meprobamate may precipitate seizures in epileptics.

**Adverse Reactions:** *Central Nervous Sys- tem:* Drowsiness, ataxia, dizziness, slurred speech, headache, vertigo, weakness, paresthesias, impairment of visual accommodation, euphoria, over- stimulation, paradoxical excitement, fast EEG activity. *Gastrointestinal:* Nau- sea, vomiting, diarrhea. *Cardiovascu- lar:* Palpitations, tachycardia, various forms of arrhythmia, transient ECG changes, syncope; also, hypotensive crises (including one fatal case). *Aller- gic or Idiosyncratic:* Usually after 1-4 doses. Milder reactions: itchy, urticarial, or erythematous maculopapular rash (generalized or confined to groin). Others: leukopenia, acute nonthrombo- cytopenic purpura, petechiae, ecchy- moses, eosinophilia, peripheral edema, adenopathy, fever, fixed drug eruption with cross reaction to carisoprodol, and cross sensitivity between meproba- mate/mebutamate and meprobamate/ carbromal. More severe, rare hypersen- sitivity: hyperpyrexia, chills, angioneu- rotic edema, bronchospasm, oliguria, anuria, anaphylaxis, erythema multi- forme, exfoliative dermatitis, stomatitis, proctitis, Stevens-Johnson syndrome; bullous dermatitis (one fatal case after meprobamate plus prednisolone). Stop drug, treat symptomatically (e.g., possi- ble use of epinephrine, antihistamines, and in severe cases corticosteroids). *Hematologic:* Agranulocytosis and aplastic anemia (rarely fatal), but no causal relationship established. Rarely, thrombocytopenic purpura. *Other:* Ex- acerbation of porphyric symptoms.

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# Editorial

## PHYSICIANS AS EXPERTS

The physician by the nature of his profession encounters various problems in our culture. Not the least of these involve dealing with the unreal qualities or abilities which people attribute to him. The various healing cultists who use the title Dr. have effectively demonstrated their awareness that these factors exist in their exploitation of people who fail to distinguish between them and the ethical physician. Usually when these cultist groups are queried they respond as if they do believe in their various approaches and seem to feel this belief justifies their activity.

While unreal qualities attributed to cultists by the public in the areas of the healing processes may be obvious to physicians, it seems to be not so obvious, or at least acknowledged, that people tend to attribute unreal qualities to physicians in areas other than their medical expertise as well. This is certainly not to suggest that physicians can only be recognized for or limited to expertise in the medical area, but rather that they may not necessarily be uniquely endowed in some unknown fashion to be experts about everything. The fact that people may seem to want or need to believe otherwise at times, and may well flatter or help deceive the physician into believing or accepting their misrepresentation of himself, may lead to problems for the physician who so becomes the self ordained all around "expert".

A physician with a lack of circumspection may accept this role, however it is at this point that he may well become the victim of a set of circumstances which is part of a well recognized syndrome. People who have encouraged and allowed this type of misrepresentation then seem to suffer an inevitable disenchantment with the "expert" and usually reveal this with hostility directed at the physician in a general sense. To hear that the government should run the medical profession, that physicians are pompous and grandiose, that physicians don't know or care what the public needs for delivery of medical care, etc., etc., are familiar refrains and probably at least partially have their roots in this process.

With these processes in mind, it might be well for the physician to periodically reevaluate his role in society as well as in medicine in order that he not be misrepresented.

The Journal of the South Carolina Medical Association

## 50 YEARS AGO

### March, 1922

Rock Hill reported 17 white practitioners and three colored physicians. The virtues of Rock Hill at the time were included as enticement to the approaching Annual Meeting, to be held there. Provisional program consisted of 29 papers to be presented. The death of Dr. J. W. Babcock of Columbia was noted. Valuable work on pellagra was recognized. The use of toxin-antitoxin for diphtheria was discussed. Reports of proceedings of a number of county medical societies were included in this number.




**Dr. George W. Smith, Jr.**, head of the Columbia Hospital Radiology Department, has been chosen chief of staff for 1972. **Dr. James T. Green** will serve as vice chief of staff and **Dr. A. J. Richards** will serve as secretary. **Dr. Ethel Madden**, a Columbia pediatrician, has been named chief of staff at South Carolina Baptist Hospital for 1972. **Dr. Charles Crews** was named vice chief of staff and **Dr. Pierre F. Laborde** was named secretary.

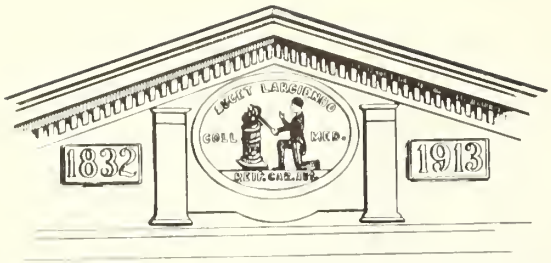
**Dr. Harry J. Metropol** has been elected chief of staff at Providence Hospital in Columbia. **Dr. Lawrence V. Jowers**, a family practitioner for over 25 years, was named new vice chief of staff. The following physicians will serve as chief of their division: **Dr. C. Warren Irvin, Jr.**, Department of Internal Medicine; **Dr. Andrew S. Whitaker**, Department of Surgery; **Dr. James H. Blair, Jr.**, Department of Obstetrics and Gynecology; **Dr. Joseph A Plyler**, Department of Family Practice; **Dr. Bartlett M. Cheatham**, Department of Orthopedics; **Dr. John A. Wells, Jr.**, Department of Ophthalmology; **Dr. Walter Kochanski**, Department of Orthopedics; and **Dr. James F. White**, Department of Oto-Rhino Laryngology. Also serving will be **Dr. James R. Cain**, Department of Pathology; **Dr. Charles A. James**, Department of Pediatrics; **Dr. James F. Adams**, Department of Radiology; and **Dr. Joseph H. Miller**, Department of Urology. Named to the executive committee are **Drs. Herbert B. Niestat, Charles H. Peebles** and **Edward M. Schlaefer.**

**Dr. Robert L. Wingate, Jr.** of Columbia has been admitted as a member of the American College of Physicians.

Three physicians have been elected as officers of the medical staff of the Divine Saviour Hospital and Nursing Home in York. They are **Dr. Walter K. Wood**, chairman; **Dr. John M. Pratt**, vice chairman; and **Dr. Bruce C. Elliott**, secretary. The Greenville County Medical Society has elected **Dr. Lawson Stoneburner**, as president; **Dr. L. N. Bellew**, secretary; **Dr. Ernest Lathem**, treasurer; and **Dr. Iverson O. Brownell**, vice president.

**Dr. Susanne G. Black**, health director of the Pee Dee District, South Carolina Board of Health, was named South Carolina Career Woman of the Year. After practicing as a physician for 20 years with her husband, **Dr. Swift C. Black** of Dillon, she earned a Master's degree in public health from the University of North Carolina in 1970. **Dr. John H. Cathcart, Jr.**, of Gaffney has been elected to the Board of Directors of the Bank of Gaffney. **Dr. Robert E. Jackson** of Manning has moved into new offices at 129 Hospital Avenue. **Dr. B. J. Workman** received the Woodruff-Enoree Sertoma Club Service to Mankind Award. Dr. Workman, a Woodruff native, began his medical career as a medical officer during World War I. He has practiced in the Woodruff area since that time and been very active in local affairs.

**Dr. John M. Foxworth**, a 1968 graduate of the Medical University of South Carolina, attended the recent American College of Psychiatry annual teaching seminar by invitation. Dr. Foxworth is currently chief resident in Psychiatry at the William S. Hall Psychiatric Institute, and one of several residents throughout the country selected by the American College of Psychiatry for this honor.




## Medical University of South Carolina

**Dr. John E. Mahaffey,** professor and chairman of the Department of Anesthesiology, has been appointed to the Board of Directors of the American Society of Anesthesiologists. Dr. Mahaffey has been active in the section on Clinical Care and now is serving on the Society's Committee on Hospital Planning and Construction.

In recognition of his leading role in the development of Family Practice as the newest medical specialty, **Dr. Hiram B. Curry** chairman of the Department of Family Practice, was selected as kickoff speaker for a Family Practice Day in Chicago. He also delivered a paper at the 68th Annual Congress on Medical Education while in Chicago.

**Dr. Edmund Farrar,** professor of medicine, presented a paper at the Southern Section of the American Federation for Clinical Research in New Orleans in January. Dr. Farrar heads the Department of Medicine's Infectious Diseases Section. His paper was entitled "Interbacterial Transfer of R Factor During Human Shigellosis."

**Dr. Middleton Lambright, Jr.,** well-known Cleveland chest surgeon and civic leader, has accepted the post of assistant dean of the Medical University of South Carolina. President of the Cleveland Academy of Medicine in 1964-65, Dr. Lambright is assistant clinical professor of surgery at Case Western Reserve University, chief of surgery at Forest City Hospital and on the surgical staff of Metropolitan General Hospital.

**Dr. Charles T. Wallace** has been appointed Chief Resident and Teaching Fellow in anesthesiology. He is a 1969 graduate of the Medical University.

**Dr. Ottis M. Ballenger** has been named a Teaching Fellow in neurosurgery at the Medical University of South Carolina teaching Hospital. He is a 1966 graduate of the University.



**Pre-Sate®**
**(chlorphentermine HCl)**
**CAUTION:** Federal law prohibits dispensing without prescription.
**Indications:** Pre-Sate (chlorphentermine hydrochloride) is indicated in exogenous obesity, as a short term (i.e., several weeks) adjunct in a regimen of weight reduction based upon caloric restriction.
**Contraindications:** Glaucoma, hyperthyroidism, pheochromocytoma, hypersensitivity to sympathomimetic amines, and agitated states. Pre-Sate (chlorphentermine hydrochloride) is also contraindicated in patients with a history of drug abuse or symptomatic cardiovascular disease of the following types: advanced arteriosclerosis, severe coronary artery disease, moderate to severe hypertension, or cardiac conduction abnormalities with danger of arrhythmias. The drug is also contraindicated during or within 14 days following administration of monamine oxidase inhibitors, since hypertensive crises may result.
**Warnings:** When weight loss is unsatisfactory the recommended dosage should not be increased in an attempt to obtain increased anorexigenic effect; discontinue the drug. Tolerance to the anorectic effect may develop. Drowsiness or stimulation may occur and may impair ability to engage in potentially hazardous activities such as operating machinery, driving a motor vehicle, or performing tasks requiring precision work or critical judgment. Therefore, such patients should be cautioned accordingly. Caution must be exercised if Pre-Sate (chlorphentermine hydrochloride) is used concomitantly with other central nervous system stimulants. There have been reports of pulmonary hypertension in patients who received related drugs.
**Drug Dependence:** Drugs of this type have a potential for abuse. Patients have been known to increase the intake of drugs of this type to many times the dosages recommended. In long-term controlled studies with high dosages of Pre-Sate, abrupt cessation did not result in symptoms of withdrawal.
**Usage In Pregnancy:** The safety of Pre-Sate (chlorphentermine hydrochloride) in human pregnancy has not yet been clearly established. The use of anorectic agents by women who are or who may become pregnant, and especially those in the first trimester of pregnancy, requires that the potential benefit be weighed against the possible hazard to mother and child. Use of the drug during lactation is not recommended. Mammalian reproductive and teratogenic studies with high multiples of the human dose have been negative.
**Usage In Children:** Not recommended for use in children under 12 years of age.
**Precautions:** In patients with diabetes mellitus there may be alteration of insulin requirements due to dietary restrictions and weight loss. Pre-Sate (chlorphentermine hydrochloride) should be used with caution when obesity complicates the management of patients with mild to moderate cardiovascular disease or diabetes mellitus, and only when dietary restriction alone has been unsuccessful in achieving desired weight reduction. In prescribing this drug for obese patients in whom it is undesirable to introduce CNS stimulation or pressor effect, the physician should be alert to the individual who may be overly sensitive to this drug. Psychologic disturbances have been reported in patients who concomitantly receive an anorexic agent and a restrictive dietary regimen.
**Adverse Reactions: Central Nervous System:** When CNS side effects occur, they are most often manifested as drowsiness or sedation or overstimulation and restlessness. Insomnia, dizziness, headache, euphoria, dysphoria, and tremor may also occur. Psychotic episodes, although rare, have been noted even at recommended doses. **Cardiovascular:** tachycardia, palpitation, elevation of blood pressure. **Gastrointestinal:** nausea and vomiting, diarrhea, unpleasant taste, constipation. **Endocrine:** changes in libido, impotence. **Autonomic:** dryness of mouth, sweating, mydriasis. **Allergic:** urticaria. **Genitourinary:** diuresis and, rarely, difficulty in initiating micturition. **Others:** Paresthesias, sural spasms.
**Dosage and Administration:** The recommended adult daily dose of Pre-Sate (chlorphentermine hydrochloride) is one tablet (equivalent to 65 mg chlorphentermine base) taken after the first meal of the day. Use in children under 12 not recommended.
**Overdosage: Manifestations:** Restlessness, confusion, assaultiveness, hallucinations, panic states, and hyperpyrexia may be manifestations of acute intoxication with anorectic agents. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension, or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Fatal poisoning usually terminates in convulsions and coma.
**Management:** Management of acute intoxication with sympathomimetic amines is largely symptomatic and supportive and often includes sedation with a barbiturate. If hypertension is marked, the use of a nitrate or rapidly acting alpha-receptor blocking agent should be considered. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendations in this regard.
**How Supplied:** Each Pre-Sate (chlorphentermine hydrochloride) tablet contains the equivalent of 65 mg chlorphentermine base; bottles of 100 and 1000 tablets.
**Full information available on request.**

WARNER-CHILCOTT
Division, Warner-Lambert Company

# for the practical generation

# Pre-Sate®
## (chlorphentermine HCl)



## the trend is toward our kind of anorectic

**Not a controlled drug under the Comprehensive Drug Abuse Prevention and Control Act**

- low potential for abuse
- less CNS stimulation than with d-amphetamine or phenmetrazine

**Effective anorectic adjunct to your program of caloric restriction and diet re-education**

- weight loss comparable to d-amphetamine and phenmetrazine, superior to placebo
- convenient one-a-day dosage

B/W

**Pre-Sate®** (chlorphentermine HCl)...the increasingly practical appetite suppressant



# What makes 'Deprol' useful for depressed geriatric patients... makes it useful for younger patients as well

- helps ease mild to moderate nonpsychotic depression *and* related anxiety
- helps assure a good night's rest



The middle-aged housewife who can't stop feeling "blue," who worries about losing her attractiveness yet neglects her appearance; reports vague aches and pains, difficulty sleeping, loss of appetite.

**INDICATIONS:** Useful in the management of depression, both acute (reactive) and chronic; particularly useful in the less severe depressions and where the depression is accompanied by anxiety, insomnia, agitation, or rumination; also useful for management of depression and associated anxiety accompanying or related to organic illnesses.

**CONTRAINDICATIONS: Benactyzine hydrochloride:** Glaucoma and previous allergic or idiosyncratic reactions to benactyzine hydrochloride or related compounds. **Meprobamate:** Acute intermittent porphyria and allergic or idiosyncratic reactions to meprobamate or related compounds such as carisoprodol, mebutamate, tybamate, carbromal.

**WARNINGS:** The following information on meprobamate pertains to 'Deprol' (meprobamate + benactyzine hydrochloride): **Meprobamate:** *Drug Dependence:* Physical and psychological dependence and abuse have occurred. Chronic intoxication, from prolonged use and usually greater than recommended doses, leads to ataxia, slurred speech, vertigo. Carefully supervise dose and amounts prescribed, and avoid prolonged use, especially in alcoholics and addiction-prone persons. Sudden withdrawal after prolonged and excessive use may precipitate recurrence of pre-existing symptoms (e.g., anxiety, anorexia, insomnia) or withdrawal reactions (e.g., vomiting, ataxia, tremors, muscle twitching, confusional states, hallucinosis; rarely convulsive seizures, more likely in persons with CNS damage or pre-existent or latent convulsive disorders). Therefore, reduce dosage gradually (1-2 weeks) or substitute a short-acting barbiturate, then gradually withdraw. *Potentially Hazardous Tasks:* Dr a motor vehicle or operating machinery. *Additive Effects:* Possible tive effects between meprobamate, alcohol, and other CNS depres or psychotropic drugs. *Pregnancy and Lactation:* Safe use not establis weigh potential benefits against potential hazards in pregnancy, nu mothers, or women of childbearing potential. Animal data at five t the maximum recommended human dose show reduction in litter due to resorption. Meprobamate appears in umbilical cord blood near maternal plasma levels, and in breast milk at levels 2-4 times of maternal plasma. *Children Under Six:* Drug not recommended.

**PRECAUTIONS: Meprobamate:** To avoid oversedation, use lowest tive dose, particularly in elderly and/or debilitated patients. Conside sibility of suicide attempts; dispense least amount of drug feasible a one time. To avoid excess accumulation, use caution in patients with promised liver or kidney function. Meprobamate may precipitate sei in epileptics.

**ADVERSE REACTIONS:** Nausea, dry mouth, other g.i. symptoms cope; one case each of severe nervousness and loss of power of cc tration. The following side effects, which have occurred after administr of its components alone, have either occurred or might occur whe combination is taken. **Benactyzine hydrochloride:** Benactyzine h chloride alone, particularly in high dosage, may produce dizziness, thc blocking, a sense of depersonalization, aggravation of anxiety, or c

When mild depression and associated anxiety interfere with living

# DEPROL®

(meprobamate 400 mg + benactyzine hydrochloride 1 mg)



The junior executive crushed by his repeated failure to be promoted and anxious about the future; complains to you of listlessness, early-morning awakening.

The young widow whose grief has persisted too long, is pessimistic and fearful about what lies ahead, has lost interest in everything; is preoccupied with vague physical ailments, has crying spells.

e of sleep patterns, and a subjective feeling of muscle relaxation. may also be anticholinergic effects such as blurred vision, dryness uth, or failure of visual accommodation. Other reported side effects included gastric distress, allergic response, ataxia, and euphoria. **obamate:** *Central Nervous System:* Drowsiness, ataxia, dizziness, d speech, headache, vertigo, weakness, paresthesias, impairment of accommodation, euphoria, overstimulation, paradoxical excite- fast EEG activity. *Gastrointestinal:* Nausea, vomiting, diarrhea. *Car- scular:* Palpitations, tachycardia, various forms of arrhythmia, tran- ECG changes, syncope; also, hypotensive crises (including one fatal *Allergic or Idiosyncratic:* Usually after 1-4 doses. Milder reactions: urticarial, or erythematous maculopapular rash (generalized or ed to groin). Others: leukopenia, acute nonthrombocytopenic pur- petechiae, ecchymoses, eosinophilia, peripheral edema, adenopa- ever, fixed drug eruption with cross reaction to carisoprodol, and sensitivity between meprobamate/mebutamate and meprobamate/ omal. More severe, rare hypersensitivity: hyperpyrexia, chills, angio- tic edema, bronchospasm, oliguria, anuria, anaphylaxis, erythema forme, exfoliative dermatitis, stomatitis, proctitis, Stevens-Johnson ome; bullous dermatitis (one fatal case after meprobamate plus isolone). Stop drug, treat symptomatically (e.g., possible use of phrine, antihistamines, and in severe cases corticosteroids). *Hema- c:* Agranulocytosis and aplastic anemia (rarely fatal), but no causal relationship established. Rarely, thrombocytopenic purpura. *Other:* Exacerbation of porphyric symptoms.

**USUAL ADULT DOSAGE:** One tablet three or four times daily, which may be increased gradually to six tablets daily and gradually reduced to maintenance levels upon establishment of relief. Doses above six tablets daily are not recommended.

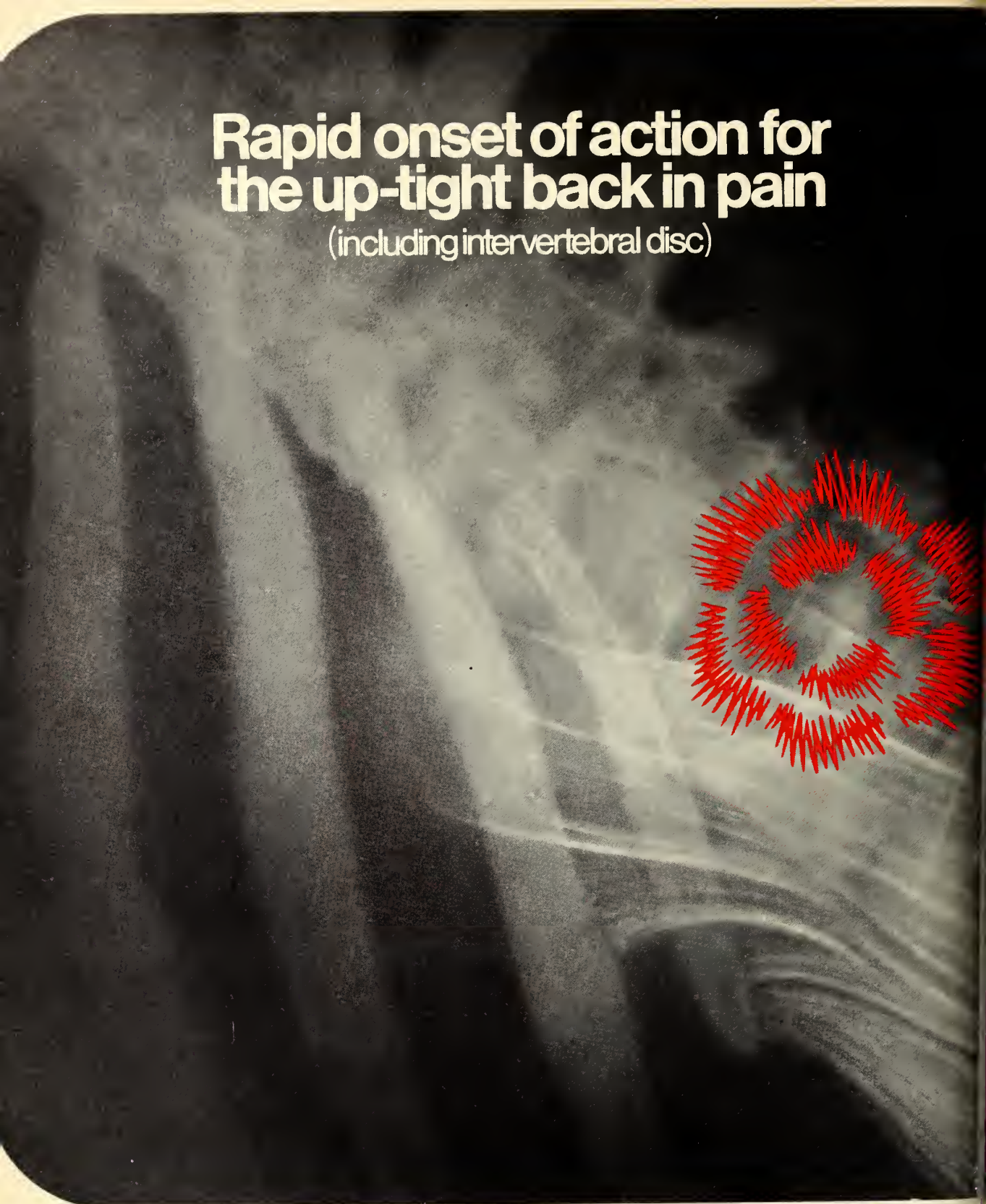
**OVERDOSAGE:** Overdosage of 'Deprol' (meprobamate + benactyzine hydrochloride) has not differed substantially from meprobamate overdosage: **Meprobamate:** Suicidal attempts with meprobamate, alone or with alcohol or other CNS depressants or psychotropic drugs, have produced drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse, and death. Empty stomach, treat symptomatically; cautiously give respiratory assistance, CNS stimulants, pressor agents as needed. Meprobamate is metabolized in the liver and excreted by the kidney. Diuresis and dialysis have been used successfully. Carefully monitor urinary output; avoid overhydration; observe for possible relapse due to incomplete gastric emptying and delayed absorption. REV 10/71

*Before prescribing, consult package circular or latest PDR information.*

WALLACE PHARMACEUTICALS, Cranbury, N.J. 08512

# Rapid onset of action for the up-tight back in pain

## (including intervertebral disc)



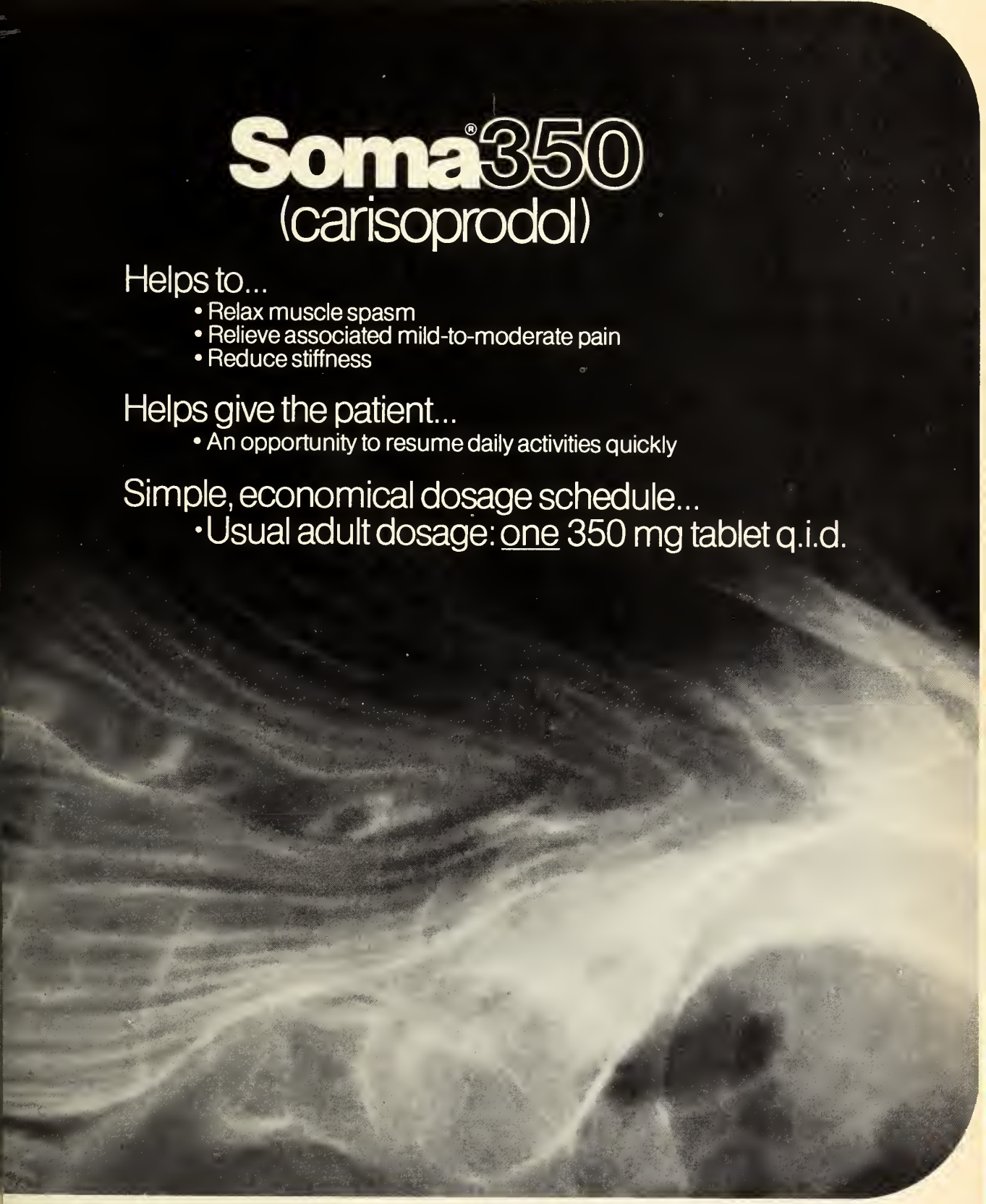
**Indications:** For symptomatic relief in conditions characterized by skeletal muscle spasm and mild to moderate pain.

**Contraindications:** Acute intermittent porphyria and allergic or idiosyncratic reactions to carisoprodol or related compounds such as meprobamate, mebutamate, tybamate.

**Warnings:** *Idiosyncratic Reactions:* Rarely, first dose has been followed by extreme weakness, transient quadriplegia, dizziness, ataxia, temporary vision loss, diplopia, mydriasis, dysarthria, agitation, euphoria, confusion, disorientation. Symptoms usually subside during the next several hours. Supportive and symptomatic therapy, including hospitalization, may be necessary. *Pregnancy and Lactation:* Safe use not established; weigh potential benefits against potential hazards in pregnancy, nursing mothers, or women of childbearing potential. *Children Under Five:* Drug not recommended. *Potentially Hazardous Tasks:* Driving a motor vehicle or operating machinery. *Additive Effects:* Possible additive effects between carisoprodol, alcohol, and other CNS depressants or psychotropic drugs. *Drug Dependence:* Use cautiously in addiction-prone patients.

**Precautions:** To avoid excess accumulation, use caution in patients with compromised liver or kidney function.

**Adverse Reactions:** *Central Nervous System:* Drowsiness, dizziness, vertigo, ataxia, tremor, agitation, irritability, headache, depressive reactions, syncope, insomnia. *Allergic or Idiosyncratic:* Usually seen after 1-4 doses in patients not previously exposed, e.g., rash, erythema multiforme, pruritus, eosinophilia, fixed drug

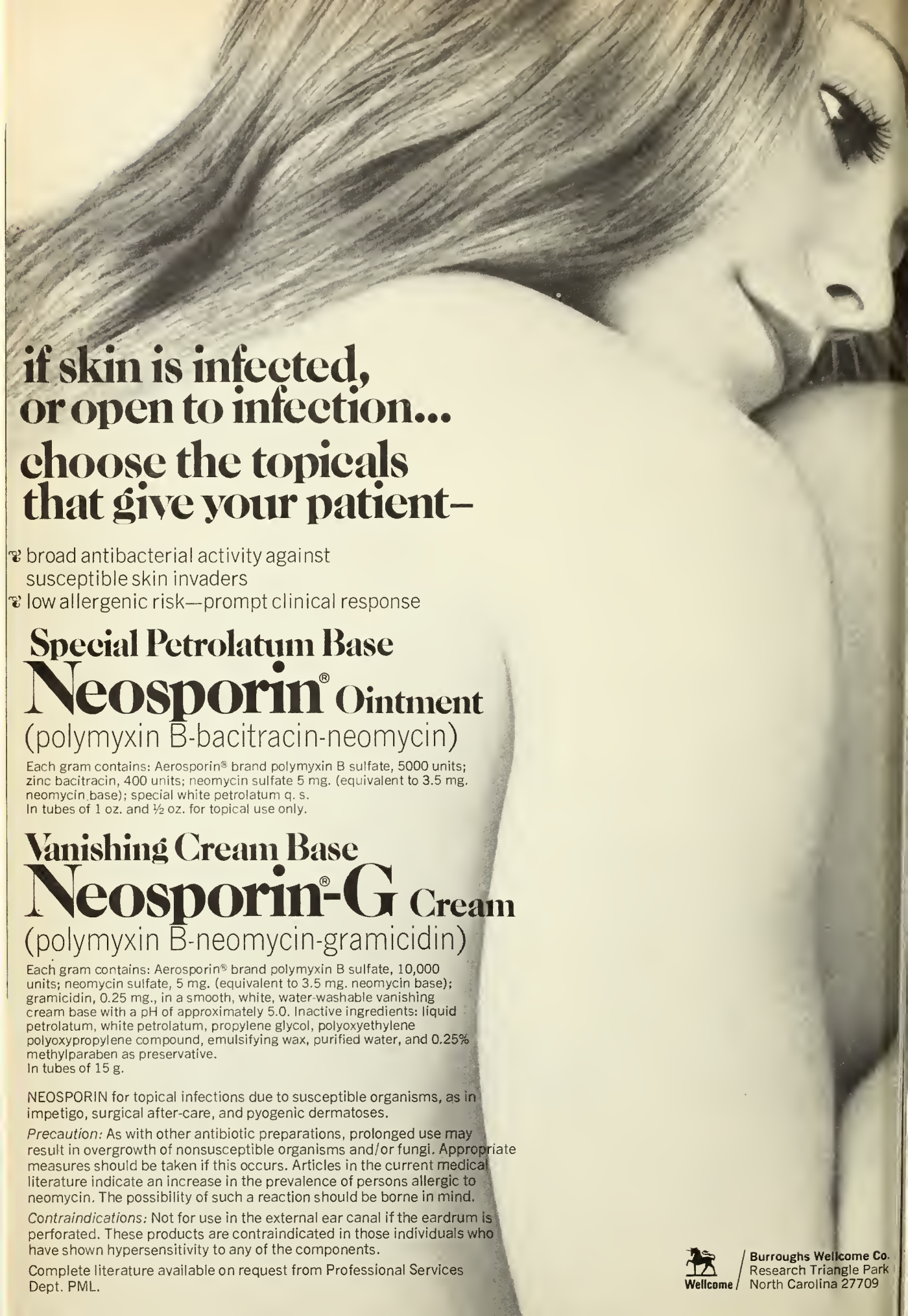



uption with cross reaction to meprobamate. More severe manistations: asthma, fever, weakness, dizziness, angioneurotic dema, smarting eyes, hypotension, anaphylactoid shock. Stop ug, treat symptomatically (e.g., possible use of epinephrine, ntihistamines, and in severe cases corticosteroids). *Cardiovasular:* Tachycardia, postural hypotension, facial flushing. *Gastrointestinal:* Nausea, vomiting, hiccup, epigastric distress. *Hematologic:* Leukopenia and pancytopenia (on carisoprodol plus her drugs).

**sual Adult Dosage:** One 350 mg tablet three times daily and at edtime.

**erdosage:** Has produced stupor, coma, shock, respiratory depression, and, very rarely, death. Overdosage of carisoprodol plus alcohol or other CNS depressants or psychotropic drugs can be additive. Empty stomach, treat symptomatically; cautiously give respiratory assistance, CNS stimulants, pressor agents as needed. Carisoprodol is metabolized in the liver and excreted by the kidney. Diuresis and dialysis have been used successfully with related drug meprobamate. Carefully monitor urinary output; avoid overhydration; observe for possible relapse due to incomplete gastric emptying and delayed absorption. REV. 10/71

**WALLACE PHARMACEUTICALS** /Cranbury, N.J. 08512



# if skin is infected, or open to infection...

# choose the topicals that give your patient–

- broad antibacterial activity against susceptible skin invaders
- low allergenic risk—prompt clinical response

## Special Petrolatum Base
## Neosporin® Ointment
(polymyxin B-bacitracin-neomycin)

Each gram contains: Aerosporin® brand polymyxin B sulfate, 5000 units; zinc bacitracin, 400 units; neomycin sulfate 5 mg. (equivalent to 3.5 mg. neomycin base); special white petrolatum q. s.
In tubes of 1 oz. and ½ oz. for topical use only.

## Vanishing Cream Base
## Neosporin®-G Cream
(polymyxin B-neomycin-gramicidin)

Each gram contains: Aerosporin® brand polymyxin B sulfate, 10,000 units; neomycin sulfate, 5 mg. (equivalent to 3.5 mg. neomycin base); gramicidin, 0.25 mg., in a smooth, white, water-washable vanishing cream base with a pH of approximately 5.0. Inactive ingredients: liquid petrolatum, white petrolatum, propylene glycol, polyoxyethylene polyoxypropylene compound, emulsifying wax, purified water, and 0.25% methylparaben as preservative.
In tubes of 15 g.

NEOSPORIN for topical infections due to susceptible organisms, as in impetigo, surgical after-care, and pyogenic dermatoses.

*Precaution:* As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

*Contraindications:* Not for use in the external ear canal if the eardrum is perforated. These products are contraindicated in those individuals who have shown hypersensitivity to any of the components.

Complete literature available on request from Professional Services Dept. PML.

Wellcome / **Burroughs Wellcome Co.**
Research Triangle Park
North Carolina 27709

**E. Kenneth Aycock, M.D., M.P.H.**
**Secretary and State Health Officer**

## SMALLPOX ERADICATION

Another magic moment in medicine arrived a few months ago. Another disease joined the ranks of those conquered by medicine.

Smallpox.

What makes this all the more fascinating rests in the fact that Jenner, when he observed the immunity of milkmaids, developed the first widely used immunization, an immunization which is eminently effective against one of man's major scourges.

But as with any medication there were and are side effects. Now, the incidence of smallpox has dropped to zero in most nations of the world, but the side effects of vaccination continue. The law of diminishing returns has caught up with us, so the World Health Organization, the United States Public Health Service, American Academy of Pediatrics and other august bodies have conducted studies to determine the risks.

One study, which lasted ten years and included South Carolina in the group of states studied, determined that while the chance of importing a case of smallpox into the United States was very low, and the chance of contracting smallpox in the United States was much lower, there was at least one major complication out of each 1000 vaccinations: generalized vaccinia, encephalatis, infection and so on.

In 1968, World Health Organization and U. S. Public Health Service estimated that 14,168,000 people were vaccinated for smallpox in the United States. Nine deaths occurred that year associated with vaccination; one a contact not even given a vaccination. Complications were greater in primary vaccinees; and much higher in infants under one year. The risk of death for children under the age of 12 months receiving their first vaccination (primary vaccinee) was five per million, and the risk of other serious complication was three per thousand.

All of this adds up to the results that the State Board of Health is requesting that South Carolina repeal its mandatory indiscriminate smallpox vaccination law as a condition prerequisite for entry into school. It places the question of whether to vaccinate for smallpox or not into the hands of the family physician.

Semantics have a place in this discussion. Smallpox *vaccination* being the first, and for a long time the only use of a vaccine, it became known simply as "vaccination." However, now, in this day and age when smallpox vaccination is going into semi-retirement, we have other live or dead vaccines: i.e., rubella, rubeola, polio, and so forth. This set of facts always send the purist into a fit when he deals with "vaccination" meaning smallpox.

The U. S. Quarantine Service has published a document saying that unless there is an emergency, persons entering the U.S.A. from overseas or the Americas will not be required to show a certificate of vaccination. I have a word of advice. For eight years, among other duties, I had U. S. Quarantine responsibilities in the Canal Zone. My advice is this. In order to be prepared for any emer-

gency, adults who have not been vaccinated for smallpox within the four years preceding their trip, should be vaccinated.

This advice comes for two reasons. Adults who have been vaccinated before, run only one-tenth the risk of complications when compared to those who have never been vaccinated; and we would hate to have the traveler hung up on Ellis Island or some other delightful hostelry if an unlikely event happened . . . such as having flown over on the same plane with a elephant salesman from Borneo (still endemic for smallpox) who happened to have the disease.

The possibility of importing smallpox into the United States becomes less and less. In 1971, only nine countries reported the disease, and no case has been imported into the United States since 1946. Fear of spread, if and when isolated cases are imported, diminishes with the gathering of experience. Several European countries have had cases imported. In each case, spread is stopped before any tertiary spread occurs.

While nine countries reported smallpox in 1971, 23 reported it in 1970 and 43 in 1966. Such has been the rapid drop in countries with endemic cases. Such is the course of history in this once virulent plague on mankind. Such is the record on which medicine can stand proud.

When Edward Jenner discovered the value of attenuated virus as protection against a disease he pioneered a vast field of endeavor. As we write smallpox immunization off the list, let's not forget all the other immunizations which have been developed: rubella, measles, tetanus (the best), diphtheria, polio, and all the rest. Nothing in all of medicine replaces the assurance of having "stockpiled" within the human body the ability to resist a dread disease.

Edward Jenner died in 1906. This is only one lifetime later. Once smallpox killed and maimed literally millions each year. Now it passes from the pages of history. We will need some vigilance to keep it that way . . . we thought for example that we had V. D. licked, but now it is the world's major disease group again. The Center for Disease Control, the World Health Organization, the State Board of Health and others will be keeping close watch.

Nonetheless, Ed Jenner deserves a small nod and a smile.

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## VETERANS ADMINISTRATION NEWS

### Dr. Weidner Surveys Puerto Rico Surgical Residency Programs

During the period January 30 to February 4, Dr. Michael G. Weidner, Jr., Professor of Surgery at the Medical University of S. C. and Chief of Surgical Service at the Charleston VA Hospital completed survey reviews of the surgical residency programs at the University of Puerto Rico affiliated hospitals and at the Mayaguez Medical Center. The university affiliated hospitals were the University District Hospital, the I. Gonzales Martinez Hospital, the Municipal Hospital Dr. Rafael Lopez Nussa, and the new Veterans Administration Center at San Juan. Professional evaluation of these residency programs by Dr. Weidner was accomplished at the invitation and sponsorship of the Conference Committee on Graduate Education in Surgery, American College of Surgeons.

# HISTORY OF A MEDICAL REVIEW COMMITTEE

C. B. HANNA, M.D.,
D. C. HULL, M.D. AND
J. F. GREEN, M.D.

Medicare has precipitated more decisions that touch the physician's pocketbook than any other act by Government or private enterprise. By July 1 this year, after five years as the Medicare Part B Carrier in South Carolina, The South Carolina Blue Shield Plan had disbursed $40,167,277 of Social Security funds. Nearly all of it went to physicians in this state.

Naturally enough, this volume of third-party payment thrust suddenly into the system of private medical and surgical service to elderly patients brought about sensitive problems between Government and individual physicians. Blue Shield filled a difficult middleman's role. In the first two years while we were all learning the ins and outs of Medicare, Blue Shield had to deny some or all payment on 15,118 physician's claims. The total amount of payments denied on those claims was $1,101,741.

Now, however, each year has brought a higher pay-out of Medicare Part B benefits and a lower dollar amount of claims reduced or denied. This shows that the medical review of claims has proven its worth in two ways; prevention of inadvertent abuse and education of the medical community. South Carolina's physicians can take pride in both the history of their medical review and in its ongoing promise.

From this salutory position it is well to look back over the past half-decade and review the development of medical review.

In 1966, each of us was asked to submit our usual and customary fees for procedures we most commonly did. The majority of doctors responded promptly to Blue Shield's request for this information. Many lists were extremely brief. However, as each of us submitted bills to either Blue Shield or to Medicare a large list of charges were recorded by computer, both as charges of the individual physician and as averages of charges for each procedure. By directive from HEW, Medicare charges had to be compared to non-Medicare charges and the contracting agent (in our case Blue Shield) was responsible for making sure that payments were comparable. Six facts soon became apparent to the South Carolina Blue Shield Board of Directors.

1. Many charges from physicians were different for Medicare and non-Medicare patients.
2. Many claims were submitted for procedures on which non professional personnel could not make informed decisions.
3. Many charges were not acceptable to Medicare because of inadequate collaborating information.
4. Many claims were improperly submitted by secretaries who had inadequate information about filing.
5. Many payments were made that were less than the physician felt his services were worth.
6. There was a rapidly increasing claims volume because of Blue Shield's membership growth and Medicare.

Because of these problems, the Blue Shield Board approved a Medical Review Committee on November 13, 1966. The Committee was formed to assure South Carolina physicians of maximum consideration from Blue Shield and Medicare for themselves and their patients. It was determined that

the Committee would consist of seven physicians from different areas of the state representing six specialties. The specialties included Surgery, Internal Medicine, Obstetrics and Gynecology, General Practice, Opthalmology and Otolaryngology, and Orthopedic Surgery. Two physicians represented surgery and one physician represented each of the other specialties.

In August, 1967, seven physicians were asked to serve on this committee. The first meeting of the Medical Review Committee of Blue Shield-Medicare was held at Blue Cross-Blue Shield headquarters on October 25, 1967. Since that time, the meetings have been held at two or three month intervals, as deemed necessary by claims volume. The Medical Director of Blue Cross-Blue Shield, Dr. Charles Lemmon, Jr., presides as Chairman of the Committee. The following officials of Blue Cross-Blue Shield also attend the meetings: General Manager of Claims, Director of Professional Relations, Manager of Physician Relations, Manager of Physician Claims, Manager of Reasonable Charge, Manager of Utilization Control, Legal Counsel, Medical Director in Charge of Provider Claims, Assistant to the Medical Director and Secretary to the Medical Director.

Visitors who have attended meetings of the Medical Review Committee include the President of the South Carolina Medical Association, representatives of the Social Security Administration, and Chairman of the Peer Review Committee of the South Carolina Medical Association. Any physician who wishes to appear before the Committee can submit his problem in writing and request a time to discuss it.

From the first meeting in October, 1967, until March, 1971, a total of 706 claims have been reviewed by the Committee. Below is a breakdown of the 706 claims:

| | |
|---|---|
| Blue Cross | 56 |
| Blue Shield | 230 |
| Medicare A | 16 |
| Medicare B | 352 |
| Extended Benefits | 49 |
| Medicaid | 3 |
| Total | 706 |

A total of 582 physician claims have been reviewed. Following is a breakdown by specialty and number of doctors involved:

| *Specialty* | *No. of Claims* | *No. of Doctors* |
|---|---|---|
| General Practice | 165 | 73 |
| General Surgery | 116 | 53 |
| Thoracic and Cardiovascular Surgery | 71 | 18 |
| Plastic Surgery | 65 | 5 |
| Internal Medicine | 51 | 28 |
| Orthopedic Surgery | 42 | 20 |
| Opthalmology & Otolaryngology | 42 | 25 |
| Obstetric and Gynecology | 17 | 8 |
| Urology | 12 | 9 |
| Anesthesia | 1 | 1 |
| TOTAL | 582 | 240 |

The physicians presently serving on the Committee are:

S. O. Cantey, M. D. (General Practice, Marion, S. C.)

C. B. Hanna, M. D. (Surgery, Spartanburg, S. C.)

S. E. Izard, M. D. (Orthopedic Surgery, Charleston, S. C.)

R. E. Livingston, M. D. (Opthalmology & Otolaryngology, Newberry, S. C.)

W. F. Strait, M. D. (Obstetrics & Gynecology, Rock Hill, S. C.)

J. C. Vardell, M. D. (Internal Medicine, Columbia, S. C.)

J. H. Young, M. D. (Surgery, Anderson, S. C.)

It is difficult to give direct examples of the committee's activities without a breach of confidentiality. However, some composite problems are offered to illustrate the cases submitted to the committee.

**CASE #1.** A urologist submitted a claim for cysto-urethoscopy with resection of a bladder tumor. A fee of $250 was paid which was the urologist's usual and customary charge. The urologist complained that he thought the fee should be increased to $350. Since the charge in his profile was $250, the fee remained at $250.

**CASE #2.** The ailments of an aged white

Burroughs Wellcome Co.
Research Triangle Park
North Carolina 27709

Empirin Compound with Codeine relieves aches, pains, fever and general malaise of colds and of FLU

# A gratifying announcement about Empirin® Compound with Codeine




**You may now specify up to five refills within six months when you prescribe Empirin Compound with Codeine (unless restricted by state law).**

**It is significant in this era of increased regulation, that Empirin Compound with Codeine has been placed in a less restrictive category. You may now wish to consider Empirin with Codeine even more frequently for its predictable analgesia in acute or protracted pain of moderate to severe intensity.**

**Empirin Compound with Codeine No. 3 contains codeine phosphate* (32.4 mg.) gr. ½. No. 4 contains codeine phosphate* (64.8 mg.) gr. 1. *(Warning—may be habit-forming.) Each tablet also contains: aspirin gr. 3½, phenacetin gr. 2½, caffeine gr. ½.**



# When you select this familiar antibiotic for IV infusion you have available a broad dosage range that hospitalized patients may need.

Intravenous Lincocin (lincomycin hydrochloride, Upjohn), with its 1.2 to 8 grams/day dosage range, covers many serious and even life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. Lincocin IV therefore can be as useful in your hospitalized patients as its IM use has proved to be in your office patients. As with all antibiotics, *in vitro* susceptibility studies should be performed.

**1.2 to 8 grams/day IV dosage range:** Most hospitalized patients with uncomplicated pneumonias respond satisfactorily to 1.2 to 1.8 grams/day of Lincocin IV. These doses may have to be increased for more serious infections. In life-threatening situations as much as 8 grams/day has been administered intravenously to adults.

In usual IV doses, Lincocin (lincomyci hydrochloride, Upjohn) should be diluted in 250 ml or more of normal saline solution or 5% glucose in water. But when 4 grams or more per day is given, Lincocin should be diluted in nc less than 500 ml of either solution, and the rate of administration should not exceed 100 ml/hour. Too rapid intravenous administration of doses exceeding 4 grams may result in hypotension or, in rare instances, cardiopulmonary arrest.

**Effective gram-positive antibiotic:** Lincocin IV is effective in respiratory tract, skin and soft-tissue, and bone

nfections caused by susceptible strains
f pneumococci, streptococci, and
taphylococci, including penicillin-
esistant strains. Staphylococcal strains
esistant to Lincocin (lincomycin
ydrochloride, Upjohn) have been
ecovered. Before initiating therapy,
ulture and susceptibility studies should
e performed. Lincocin has proved
aluable in treating patients hyper-
ensitive to penicillin or cephalosporins,
nce Lincocin does not share
ntigenicity with these compounds.
lowever, hypersensitivity reactions
ave been reported, some of these in
atients known to be sensitive to
enicillin.

**Vell tolerated at infusion site:** Lincocin
travenous infusions have not
oduced local irritation or phlebitis,
hen given as recommended. Lincocin
usually well tolerated in patients who
e hypersensitive to other drugs.
evertheless, Lincocin should be used
utiously in patients with asthma or
gnificant allergies.

patients with impaired renal function,
e recommended dose of Lincocin
ould be reduced to 25—30% of
e dose for patients with normal
dney function. Its safety in
egnant patients and in infants
ss than one month of age has
t been established.

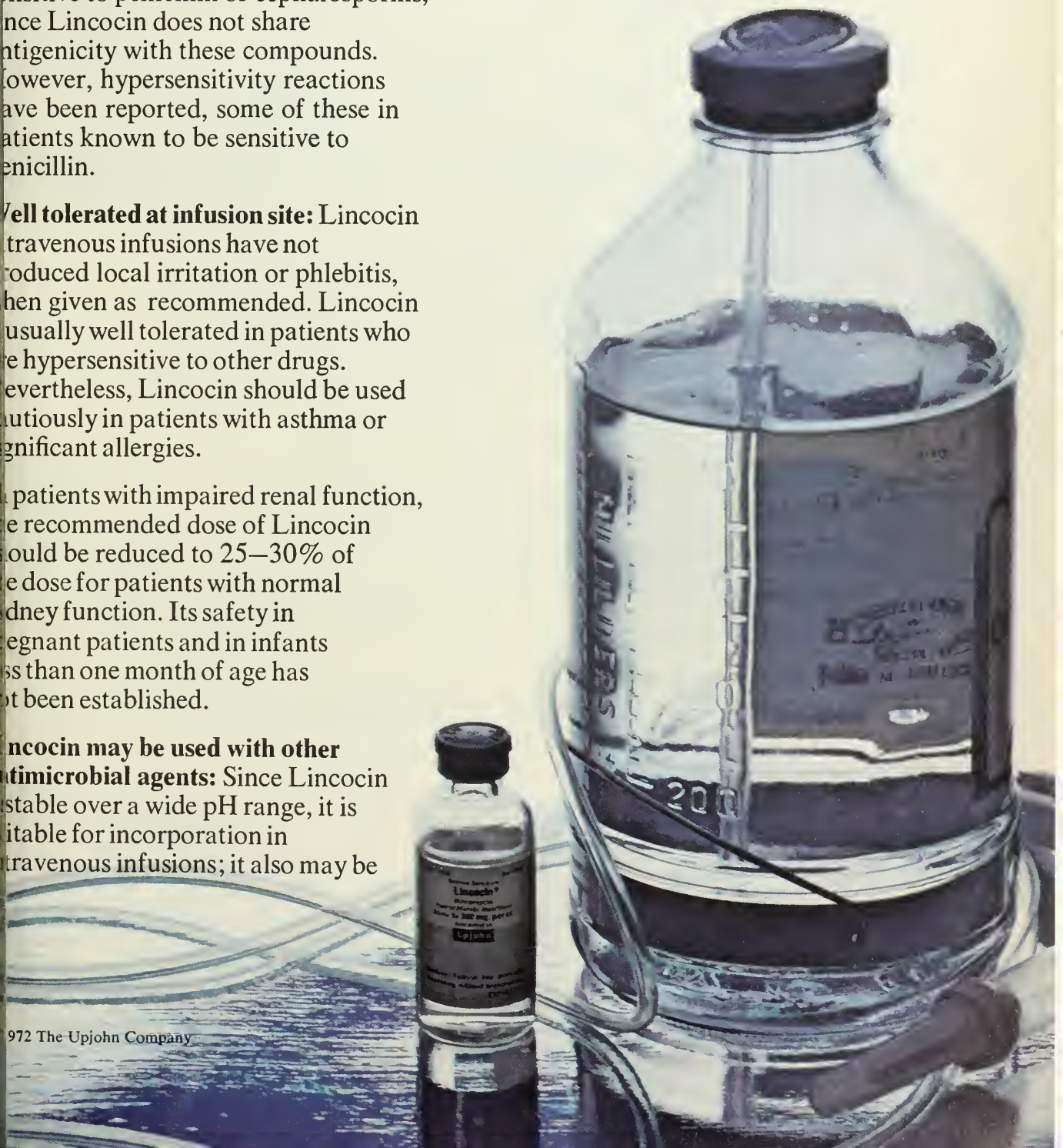
**ncocin may be used with other
timicrobial agents:** Since Lincocin
stable over a wide pH range, it is
itable for incorporation in
travenous infusions; it also may be
administered concomitantly with other antimicrobial agents when indicated. However, Lincocin should not be used with erythromycin, as *in vitro* antagonism has been reported.

# Lincocin®

Sterile Solution (300 mg per ml)

## (lincomycin hydrochloride, Upjohn)

For further prescribing information, please see following page.




972 The Upjohn Company



Sterile Solution (300 mg. per ml.)

# Lincocin®

# (lincomycin hydrochloride, Upjohn)

## Up to 8 grams per day by IV infusion for hospitalized patients with life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. As with all antibiotics, *in vitro* susceptibility studies should be performed.

| Each preparation contains: | Lincomycin hydrochloride monohydrate equivalent to lincomycin base |
|---|---|
| 250 mg Pediatric Capsule | 250 mg |
| 500 mg Capsule | 500 mg |
| *Sterile Solution per 1 ml | 300 mg |
| Syrup per 5 ml | 250 mg |

*Contains also: Benzyl Alcohol 9 mg; and, Water for Injection—q.s.

Lincocin (lincomycin hydrochloride) is indicated in infections due to susceptible strains of staphylococci, pneumococci, and streptococci. *In vitro* susceptibility studies should be performed. Cross resistance has not been demonstrated with penicillin, ampicillin, cephalosporins, chloramphenicol or the tetracyclines. Some cross resistance with erythromycin has been reported. Studies indicate that Lincocin does not share antigenicity with penicillin compounds.

CONTRAINDICATIONS: History of prior hypersensitivity to lincomycin or clindamycin. Not indicated in the treatment of viral or minor bacterial infections.

WARNINGS: *CASES OF SEVERE AND PERSISTENT DIARRHEA HAVE BEEN REPORTED AND HAVE AT TIMES NECESSITATED DISCONTINUANCE OF THE DRUG. THIS DIARRHEA HAS BEEN OCCASIONALLY ASSOCIATED WITH BLOOD AND MUCUS IN THE STOOLS AND HAS AT TIMES RESULTED IN AN ACUTE COLITIS. THIS SIDE EFFECT USUALLY HAS BEEN ASSOCIATED WITH THE ORAL DOSAGE FORM BUT OCCASIONALLY HAS BEEN REPORTED FOLLOWING PARENTERAL THERAPY.* A careful inquiry should be made concerning previous sensitivities to drugs or other allergens. Safety for use in pregnancy has not been established and Lincocin (lincomycin hydrochloride) is not indicated in the newborn. Reduce dose 25 to 30% in patients with severe impairment of renal function.

PRECAUTIONS: Like any drug, Lincocin should be used with caution in patients having a history of asthma or significant allergies. Overgrowth of nonsusceptible organisms, particularly yeasts, may occur and require appropriate measures. Patients with pre-existing monilial infections requiring Lincocin therapy should be given concomitant antimonilial treatment. During prolonged Lincocin therapy, periodic liver function studies and blood counts should be performed. Not recommended (inadequate data) in patients with pre-existing liver disease unless special clinical circumstances indicate. Continue treatment of β-hemolytic streptococci infections for 10 days to diminish likelihood of rheumatic fever or glomerulonephritis.

ADVERSE REACTIONS: *Gastrointestinal*—Glossitis, stomatitis, nausea, vomiting. Persistent diarrhea, enterocolitis, and pruritus ani. *Hemopoietic*—Neutropenia, leukopenia, agranulocytosis, and thrombocytopenic purpura have been reported. *Hypersensitivity reactions*—Hypersensitivity reactions such as angioneurotic edema, serum sickness, and anaphylaxis have been reported, sometimes in patients sensitive to penicillin. If allergic reaction occurs, discontinue drug. Have epinephrine, corticosteroids, and antihistamines available for emergency treatment. *Skin and mucous membranes*—Skin rashes, urticaria, vaginitis, and rare instances of exfoliative and vesiculobullous dermatitis have been reported. *Liver*—Although no direct relationship to liver dysfunction is established, jaundice and abnormal liver function tests (particularly serum transaminase) have been observed in a few instances. *Cardiovascular*—Instances of hypotension following parenteral administration have been reported, particularly after too rapid IV administration. Rare instances of cardiopulmonary arrest have been reported after too rapid I.V. administration. If 4.0 grams or more administered IV, dilute in 500 ml of fluid and administer no faster than 100 ml per hour. *Special senses*—Tinnitus and vertigo have been reported occasionally. *Local reaction*—Excellent local tolerance demonstrated with intramuscularly administered Lincocin (lincomycin hydrochloride). Reports of pain following injection have been infrequent. Intravenous administration of Lincocin 250 to 500 ml of 5% glucose in distilled water or normal saline has produced no local irritation or phlebitis.

HOW SUPPLIED: *250 mg* and *500 mg* Capsules—bottles of 24 and 100. *Sterile Solution, 300 mg per ml*—2 and 10 ml vials and 2 ml syringe. *Syrup, 250 mg per 5 ml*—60 ml and pint bottles.

*For additional product information, consult the package insert or see your Upjohn representative.*

MED B-6-S (KZL-7) JA71-16

The Upjohn Company
Kalamazoo, Michigan 49001

Upjohn

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Working hand in hand with medical research and physicians, Palmedico constantly strives to provide the latest in pharmaceuticals to meet advancing needs. Careful formulation and superior production are important factors in being . . . more than just a name.

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  Each Tablet contains: Methamphetamine Saccharate - 2.5 Mg.; Methamphetamine Hydrochloride - 2.5 Mg.; Amphetamine Sulfate - 2.5 Mg.; Dextro Amphetamine Sulfate - 2.5 Mg.

- **Palohist®**

  Each Capsule contains: Phenylephrine Hydrochloride - 25.0 Mg.; Chlorpheniramine Maleate - 7.5 Mg.; Pyrilamine Maleate - 25.0 Mg.; Methapyrilene Hydrochloride - 12.5 Mg.

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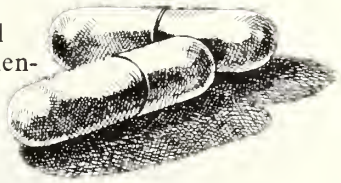
# Because you practice medicine in the Palmetto State...



# You carry one of the heaviest patient loads in the country. Since this may include a number of patients with gastritis and duodenitis... you should know more about Librax®

## Helps reduce anxiety-related G.I. symptoms

A patient may blame his attacks of gastritis or duodenitis on "something he ate" but contributing factors may be his job, marital problems, financial worries or some other unmentioned source of stress and excessive anxiety that exacerbated the condition. Whether it is "something he ate" or "something eating him," adjunctive Librax can help. Librax offers both the antianxiety action of Librium® (chlordiazepoxide HCl), that can help relieve excessive anxiety, and the dependable anticholinergic action of Quarzan® (clidinium Br), that can help reduce gastrointestinal hypermotility and hypersecretion.



## Patient-oriented dosage – up to 8 capsules daily in divided doses

For optimal response, dosage can be adjusted to suit patient needs—1 or 2 capsules, 3 or 4 times a day.

# To help relieve anxiety-linked symptoms in gastritis and duodenitis

# adjunctive Librax®

ROCHE

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

female were diagnosed by her internist as senility, cerebral arteriosclerosis and multiple cerebral infarcts, bedridden and homeridden. In this case the family had made a room in their home into a facility comparable to those in a modern nursing home and had around-the-clock nurses to look after the patient. The family insisted that the internist visit the patient once or twice a day. Correspondence from the physician indicated that the patient received nothing but custodial care and that he visited her daily because of the insistence of the family. Correspondence with a lawyer within the family indicated that they recognized the level of care for their mother was custodial. The regulations covering custodial care authorized payment for only one visit per week. When there was acute illness requiring additional visits, payment was authorized for documented visits.

**CASE #3.** An elderly male was admitted under emergency circumstances with a bleeding abdominal aneurysm. A surgeon and his associate rendered emergency care and took the patient to the operating room where the aneurysm was resected. For this a charge of approximately $1500 was submitted. In addition, an assistant's fee for the associate was submitted. That night the patient bled again and the associate performed the second operation with the first surgeon assisting. A charge of approximately $700 was submitted for the second operation and an assistant's fee was again submitted. The total charge for surgery in one day on this patient exceeded $2400. The patient died on the table so no postoperative care was rendered. It was felt by the Committee that the surgical fee was excessive and, therefore, the payment was decreased.

**CASE #4.** A male of Medicare age made frequent visits to the emergency room of his community hospital. The physician stated that the patient had anginal pain over a period of eight months. The physician submitted charges in excess of $400 for emergency room care. A review of the hospital record, however, indicated that only infrequently did the physician actually see the patient but usually ordered an injection for pain. Payment was made for the documented occasions when the physician saw the patient himself in the emergency room.

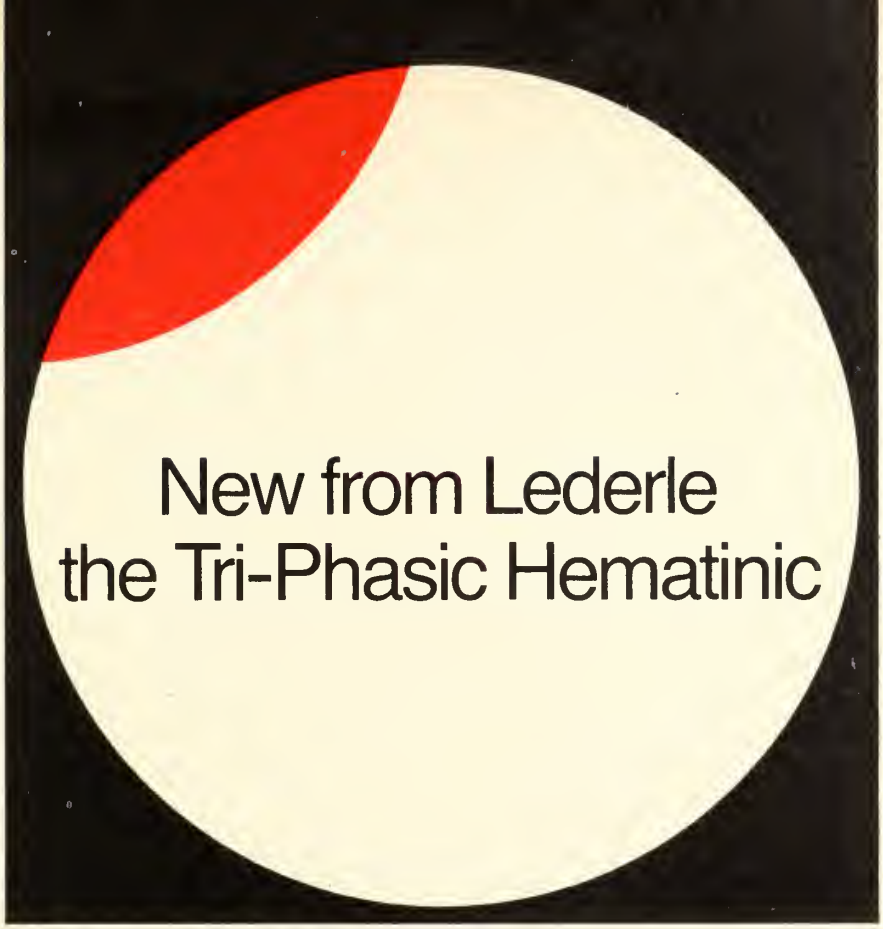
**CASE #5.** A female of medicare age was bedridden at home. The physician submitted bills for 621 home visits. He was requested to document his visits. Despite every effort on his part, his nurse's and other personnel, only 443 visits could be documented. Payment was refused for claims for visits that were not documented.

**CASE #6.** An elderly female of medicare age had an intravenous pacemaker inserted at the Medical College Hospital and returned to her home. Her condition necessitated readmission to the local hospital. The local physician documented as many as eight visits a day through typewritten progress notes. Investigation and study of the records revealed that the physician was seeing the patient only once daily and upon interrogation the physician admitted this and refunded overpayment.

**CASE #7.** This problem involved a group of claims in which the physician submitted bills by social security numbers and was paid for services rendered. He was investigated, and it was found that he was not actually seeing patients but using their numbers to collect for services not rendered. These records were turned over to Social Security for federal prosecution.

One general practitioner, who sent off chemical profiles which generally don't exceed $15 in cost to the physician, billed Medicare $80 to $120 per patient. Another physician made routine A-P and lateral x-ray films of the abdomen for abdominal aneurysms and bone profile studies for carcinoma of the prostate in men over 65. These charges were considered overutilization. When Blue Shield does not have sufficient claims data on a procedure to determine the reasonable charge, the Medical Review Committee is asked to recommend a fee. The fee is arrived at by studying the value placed upon similar procedures and a comparison of the degree of difficulty.

After receiving criticism from physicians that South Carolina fees were lower than other states, we were provided with fees




Specifically formulated with
vitamins and minerals important
in the treatment of anemia



# PHASE 1
## Enhanced Absorption

Each tablet provides 115 mg elemental iron as the highly absorbable ferrous fumarate *plus* 600 mg of Vitamin C.



# PHASE 2
## Erythrocyte Formation

Each tablet provides Vitamin $B_{12}$ (25 mcg) and Folic Acid (1 mg) to replace deficiencies.



# PHASE 3
## Premature Hemolysis

Each tablet provides Vitamin E, which may be involved in lessening red blood cell fragility.



For common anemias
as well as problem ones

# TriHEMIC™ 600
## HEMATINIC TABLETS

Tri-Phasic Hematinic with 600 mg Vitamin C PLUS Vitamin E

| Each tablet contains: | |
|---|---|
| Vitamin C (Ascorbic Acid) | 600 mg. |
| Vitamin $B_{12}$ (Cobalamin Concentrate, N.F.) | 25 mcg. |
| Intrinsic Factor Concentrate | 75 mg. |
| Folic Acid | 1 mg. |
| Vitamin E (*d*-Alpha Tocopheryl Acid Succinate) | 30 Int. Units |
| Elemental Iron (as present in 350 mg. of Ferrous Fumarate) | 115 mg. |
| Dioctyl Sodium Sulfosuccinate U.S.P. | 50 mg. |

Dosage: One Tablet Daily.
Available in Bottles of 30 Tablets.
On Your Prescription Only.



**Precautions:** Some patients affected with pernicious anemia may not respond to orally administered Vitamin $B_{12}$ with intrinsic factor concentrate and there is no known way to predict which patients will respond or which patients may cease to respond. Periodic examinations and laboratory studies of pernicious anemia patients are essential and recommended. If any symptoms of intolerance occur, discontinue drug temporarily or permanently. Folic acid, especially in doses above 1 mg. daily, may obscure pernicious anemia, in that hematologic remission may occur while neurological manifestations remain progressive.

**Adverse Reactions:** G.I.: nausea, vomiting, diarrhea, abdominal pain. Skin rashes may occur. Such reactions may necessitate temporary or permanent changes in dosage or usage. Allergic sensitization has been reported following both oral and parenteral administration of folic acid.

# TriHEMIC™ 600
## HEMATINIC TABLETS

Tri-Phasic Hematinic with 600 mg Vitamin C PLUS Vitamin E

Specifically formulated with vitamins and minerals important in the treatment of anemias, plus a stool softener to counteract the constipating effects of iron

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Lederle A Division of American Cyanamid Company, Pearl River, New York 10965

421-1

from another state for twelve procedures. Among these procedures were first visit to an internist's office, appendectomy, hysterectomy, hospital visit, tonsillectomy, adenoidectomy, and so forth. Our fees were less than those in the other state for only three procedures. The fees for the remaining procedures varied from equal to as much as 40 percent higher in South Carolina. Repeated efforts have been made, and are constantly being made, to secure information of this type.

Blue Shield payments are constantly being reviewed. In most instances, payment is made according to a Fee Schedule, using the relative value of the procedure done by the physician. Some physicians have either misunderstood or not read the Fee Schedule contract. If a subscriber has a $325 Fee Schedule contract, it means that Blue Shield will provide benefits up to a maximum of $325 depending on the relative value of the procedure. The payment is made without regard to what the surgeon thinks his work was worth or how much the patient or his family wants paid. The fact that a surgeon may think "X" operation is worth $1000 and the patient agrees makes no difference. The $375, $425, $450 and $550 Fee Schedules provide proportionally higher payment than the $325 fee schedule. The Usual and Customary contract provides payment in full for customary charges.

Medicare cases may have varied more because payments were originally made at 80 percent of charges after the deductible was met no matter what fee was submitted. Presently, Medicare payments are based on charge data from the previous year. This is being done by directive of HEW.

Statements have been made that fees in one area of the state are higher than in others. While a few individuals seem to have inflated opinions of their value, most fees are quite comparable for procedures performed by physicians with similar training.

Some fees have been arrived at by consultation with several states. Such new procedures as temporary pacemakers, arterial infusions, laser treatment of skin lesion, and chemical therapy fall into this category.

Requests have been received for additional payments when a procedure is more difficult and time consuming. But as of now, this committee has stuck with set fees. This may seem unreasonable, but we have no record of reviewing a claim where the physician returned a fee because he did the procedure easily or in less time.

# Book Reviews



**A HISTORY OF MEDICINE IN SOUTH CAROLINA, 1900-1970,** by Joseph Ioor Waring. Published by the South Carolina Medical Association, 1971. Pp 198. $7.50.

This book is Volume 3 in the series of the **History of Medicine in South Carolina** and brings the history up to 1970 and the series to a conclusion. As in previous volumes, there is abundant information concerning the medical profession in South Carolina and the chief actors therein.

For the reviewer, the most interesting portion is the first chapter, describing the economic and social condition of the state at the turn of the century. A backward look at how poor we were in 1900 makes us appreciate all the more, the efforts of the men who brought medicine to its present status in our state.

Perhaps the most valuable section is the one giving biographical sketches of former presidents of the Association, plus a few others deserving of recognition. The sound scholarship of the book is complemented by Dr. Waring's charming style of writing. An excellent index adds value to the work.

Chapman J. Milling, M.D.

**HANDBOOK OF SPEECH PATHOLOGY AND AUDIOLOGY**, edited by Lee Edward Travis. Appleton, Century, Crofts, New York, 1971. Pp. 1312. $29.95.

When the HANDBOOK OF SPEECH PATHOLOGY was first published in 1957 it quickly established itself as the standard reference in the field and has retained that position until the present; however, the much expanded HANDBOOK OF SPEECH PATHOLOGY AND AUDIOLOGY is certain to replace it.

As the new title indicates, the work has been greatly expanded. The original 33 chapters have grown to 50. The section on hearing has increased from three to seven chapters. There are 44 contributors instead of the original 27.

The foundations of speech and language disorders, the symptoms, causes and therapeutic approaches to treatment are thoroughly discussed.

The chapter on terminology and nomenclature will be greatly appreciated by most readers. Of particular interest also are the chapters on childhood and adult aphasia.

The HANDBOOK OF SPEECH PATHOLOGY AND AUDIOLOGY is an excellent reference work for anyone who is involved with the communicatively handicapped and it is enthusiastically recommended.

C. Mitchell Carnell, Jr., Director
Charleston Speech and Hearing Clinic

I am editing a book on the role of faith or religion in healing from a physician's standpoint. Any physician interested in contributing to this book, please write to the following address:

Claude A. Frazier, M.D.
4-C Doctors Park
Asheville, N. C. 28801



**Gantrisin® (sulfisoxazole) Roche® provides your patients with many important advantages:**

- high urinary levels
- generally good tolerance
- high solubility at average urinary pH
- rapid absorption
- rapid renal clearance
- high plasma concentrations
- economy (average cost of therapy: less than 6½¢ per tablet)

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Acute, recurrent or chronic urinary tract fections (primarily cystitis, pyelitis, pyelonephritis) d to susceptible organisms (usually *E. coli, Klebsie Aerobacter, Staphylococcus aureus, Proteus mirabi* and, less frequently, *Proteus vulgaris*) in the absence obstructive uropathy or foreign bodies.

**IMPORTANT NOTE: *In vitro* sulfonamide sensitivity tes are not always reliable. The test must be carefully coord nated with bacteriologic and clinical response. When th patient is already taking sulfonamides, follow-up culture should have aminobenzoic acid added to the culture med**

**Currently, the increasing frequency of resistant organism is a limitation of the usefulness of antibacterial agents cluding the sulfonamides, especially in the treatment o chronic and recurrent urinary tract infections.**

Free sulfonamide blood levels should be measured in p tients receiving sulfonamides for serious infections sin there may be wide variations with identical doses; 20 m 100 ml should be maximum total sulfonamide level, adverse reactions occur more frequently above this lev

**Contraindications:** Hypersensitivity to sulfonamides, fants less than 2 months of age (except adjunctively w pyrimethamine in congenital toxoplasmosis), pregnan at term, and during the nursing period.

**Warnings:** Safety of sulfonamides in *pregnancy* has n been established. Sulfonamides will not eradicate gro A streptococci. Deaths associated with sulfonamide a ministration have been reported from hypersensiti reactions, agranulocytosis, aplastic anemia and oth blood dyscrasias. Clinical signs such as sore throat, fev pallor, purpura or jaundice may be early indications serious blood disorders. Complete blood counts a urinalyses with careful microscopic examination sho be performed frequently during sulfonamide therapy.

**Precautions:** Use with caution when impaired renal hepatic function, severe allergy or bronchial asthma present. In glucose-6-phosphate dehydrogenase-deficie individuals, hemolysis (frequently a dose-related re tion) may occur. Maintain adequate fluid intake to p vent crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias:* Agranulocytos aplastic anemia, thrombocytopenia, leukopenia, hem lytic anemia, purpura, hypoprothrombinemia, methem globinemia. *Allergic reactions:* Erythema multiforme (S vens-Johnson syndrome), generalized skin eruptio epidermal necrolysis, urticaria, serum sickness, pruriti exfoliative dermatitis, anaphylactoid reactions, perior tal edema, conjunctival and scleral injection, photosen tization, arthralgia, allergic myocarditis. *Gastrointesti reactions:* Nausea, emesis, abdominal pains, hepati diarrhea, anorexia, pancreatitis, stomatitis. *C.N.S. re tions:* Headache, peripheral neuritis, mental depressi convulsions, ataxia, hallucinations, tinnitus, vertigo, somnia. *Miscellaneous reactions:* Drug fever, chills, to nephrosis with oliguria and anuria. Periarteritis nodo and L.E. phenomenon have occurred with sulfonam therapy. Sulfonamides bear certain chemical similarit to some goitrogens, diuretics and oral hypoglycem agents. Goiter production, diuresis and hypoglycem have occurred rarely in patients receiving sulfonamid Cross-sensitivity may exist with these agents.

**Supplied:** Tablets containing 0.5 Gm sulfisoxazole.

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Division of Hoffmann-La Roche I
Nutley, N.J. 07110

*ute, recurrent or chronic* **nonobstructed cystitis**

# TWO BUILT-IN BENEFITS OF GANTRISIN®

## sulfisoxazole/Roche®

**1.**

**High urinary drug levels**

Gantrisin quickly reaches peak antibacterial concentrations in the urine—usually in 2 to 3 hours. With the recommended dosage regimen, Gantrisin maintains these high urinary levels throughout therapy to combat such susceptible organisms as *E. coli, Klebsiella-Aerobacter, Staphylococcus aureus, Proteus mirabilis* and, less frequently, *Proteus vulgaris.*

**2.**

**Generally good tolerance**

Because of Gantrisin's high solubility and rapid excretion, therapy is relatively free of adverse reactions serious enough to require discontinuance of the drug (3.1% of 1002 patients in a recent study*). Even minor reactions are comparatively infrequent, but may include nausea, headache and vomiting. For other possible undesirable reactions, and precautions, please see summary of prescribing information on opposite page.

*Koch-Weser, J., *et al.: Arch. Intern. Med., 128* 399, 971.

**For nonobstructed cystitis**

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## MEETINGS

**The Third Annual Symposium on Gynecological Cancer** under the direction of the Department of Obstetrics and Gynecology of the Medical University of South Carolina was supported by the South Carolina Regional Medical Program will be held April 23, 24, and 25 at the Mills Hyatt House in Charleston. For further information and registration forms, please contact Dr. Vince Moseley, Director, Division of Continuing Education, Medical University of South Carolina, 80 Barre Street, Charleston, South Carolina 29401.

**The Southeastern Region of the American Association of Medical Clinics** will hold its annual session April 14 and 15 at the Nalle Clinic, Charlotte, North Carolina. For additional information, contact Dr. Luther M. Kelly, Jr., Nalle Clinic, 1350 South Kings Drive, Charlotte, North Carolina 28207.

**The 53rd Annual Session of the American College of Physicians** will be held in Atlantic City, New Jersey, April 17 through April 21 with scientific sessions at the Atlantic City Convention Hall. For registration and information, write Dr. Edward C. Rosenow, Jr., Executive Vice President, American College of Physicians, 4200 Pine Street, Philadelphia, Pennsylvania 19104.

**The National Conference on Human Values and Cancer**, sponsored by the American Cancer Society, will be held at the Regency Hyatt House in Atlanta, Georgia, June 22, 23, and 24. For further information, write Dr. William M. Markel, American Cancer Society, Inc., 219 East 42nd Street, New York, New York 10017.

**The Council on Clinical Cardiology, the American Heart Association and Tidewater Heart Association** will sponsor "Cardiac Arrhythmias at the Cavalier Hotel, Virginia Beach, Virginia, on June 8-11. For further information, contact Dr. Charles L. Baird, Jr., Virginia Commonwealth University, Medical College of Virginia, Health Science Center Box 894, Richmond, Virginia 23219.

**The Seventh National Cancer Conference** will be held September 27-29 at the Biltmore Hotel in Los Angeles, California. For further information, write Dr. Sidney L. Arje, Seventh National Cancer Conference, c/o American Cancer Society, 219 East 42nd Street, New York, New York 10017.

**The 32nd Annual AMA Congress on Occupational Health** will be held at the Drake Hotel in Chicago, September 11-12. For further information, contact the American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610.

**The Tenth International Conference on Extra-Corporeal Technology** will be held on July 27-29 at the Waldorf-Astoria in New York City. Inquiries should be directed to the American Society of Extra-Corporeal Technology, Inc., 287 East Sixth Street, St. Paul, Minnesota 55101.

**The 16th Greenville Post Graduate Seminar** will be held on March 21, 22, and 23 in Greenville. For information, contact Dr. M. G. Howle, 101 E. North Street, Greenville, South Carolina 29601.

**A Symposium on the Problems of Aging** will be held at the William S. Hall Psychiatric Institute in Columbia on March 23. For information, contact Dr. Gordon Crandall, William S. Hall Psychiatric Institute, Box 119, Columbia, South Carolina 29202.




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## Meetings—Continued

**The Southeastern Region of the American Association of Medical Clinics** will hold its annual session April 14 and 15 at the Nalle Clinic, Charlotte, North Carolina. For additional information, contact Dr. Luther M. Kelly, Jr., Nalle Clinic, 1350 South Kings Drive, Charlotte, North Carolina 28207.

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### RESOLUTION—DR. JOE P. CAIN, JR.

The Marion County Medical Society at its regular meeting January 26, 1972, passed the following Resolution:

WHEREAS, Dr. Joe P. Cain, Jr., who passed away May 26, 1971, was a member and past president of the Marion County Medical Society, and

WHEREAS, Dr. Joe P. Cain, Jr. was our District Councilor for many years and served as Chairman of Council, President of the South Carolina Medical Association, and Delegate to the American Medical Association, and

WHEREAS, Dr. Joe P. Cain, Jr. was a Trustee of the Medical University of South Carolina at the time of his death, and

WHEREAS, Dr. Joe P. Cain, Jr. held many other positions of importance in organized medicine, and

WHEREAS, Dr. Joe P. Cain, Jr. showed wisdom, diligence and dedication in all positions to which he was elected or entrusted, and

WHEREAS, Dr. Joe P. Cain, Jr. was held in high esteem by his fellow members of the Marion County Medical Society, therefore,

BE IT RESOLVED, that the members of the Marion County Medical Society desire to honor the memory of their fellow member and colleague, Dr. Joe P. Cain, Jr., and

BE IT FURTHER RESOLVED, that to honor the memory of Dr. Joe P. Cain, Jr., the Marion County Medical Society will make an annual donation to the Dr. Joe P. Cain, Jr. Scholarship Fund, and

BE IT FURTHER RESOLVED, that a copy of this Resolution be sent to the family of Dr. Cain, to the members of the Marion County Medical Society, and published in the Journal of the South Carolina Medical Association.

Respectfully submitted,

Harold S. Gilmore, M.D., Secretary
Marion County Medical Society

## MEMORIAL RESOLUTION
## TO
## DAVID CHARLES DIXON, M.D.

David Charles Dixon began his association with the Medical University after many years of active medical practice in the United States Navy. Dr. Dixon was born in Homestead, Pennsylvania. He attended Wheaton College in preparation for the ministry but in time entered and completed the premedical program there in 1940. His medical education was interrupted by service during the Second World War. He received his M.D. degree from the University of Pittsburgh School of Medicine in 1946. Internship was at St. Francis Hospital in Pittsburgh, Pennsylvania. In 1947, he returned to the United States Navy and practiced general medicine at the U. S. Naval Air Station at Patuxent River, Maryland, for two years. He entered an Obstetrics and Gynecology residency at the United States Naval hospital in Bethesda, Maryland, in 1949 and served as Chief of Obstetrics and Gynecology at the NATO Command Center at Naples, Italy from 1951-53. He completed his Obstetrics and Gynecology residency at the U. S. Naval Hospital at St. Albans, New York, in 1955 and then served as Assistant Chief of Obstetrics and Gynecology there the following year. From 1957 to 1962 Dr. Dixon was Assistant Chief of Obstetrics and Gynecology at the U. S. Naval Hospital in Charleston. Illness forced his retirement in 1962 after 20 years of service in the navy. For a time he was in private practice and then was Medical Director of the American Red Cross Blood Center at Birmingham, Alabama for a year.

Dr. Dixon accepted a residency in Anatomic Pathology February 1, 1964 feeling that this discipline would relate best to his original training in obstetrics and gynecology and be an area in which his prolonged and slowly progressive illness need not interfere with his progress. After completing his training in Necropsy and Surgical Pathology, as well as a rotation in Cytology, he enrolled in the course in Clinical Cytopathology at Johns Hopkins University. Following this he became an instructor in Pathology and Cytology on February 1, 1967. In July, 1968 he was promoted to an Associate in Pathology. From then until his retirement Dr. Dixon continued to practice as a Cytopathologist, taking an active role in the instruction of cytotechnology students, sophomore medical students and residents in Pathology. An exacerbation of his prolonged illness in October, 1970 necessitated his retirement January 31, 1971 and resulted in his death on May 2, 1971.

Dr. Dixon's entire professional career was characterized by a concern for people, an overwhelming interest in medicine, an uncompromising desire for perfection and a meticulous awareness of his responsibility to his work and other people.

Although cut off in the height of his service to his fellowman, Dr. Dixon will live on through the influence of his character on friends, students, colleagues and family.

Therefore, be it resolved, that the College of Medicine, Medical University of South Carolina, records with deep regret the death of one of its most beloved and respected faculty members, and that this resolution be inscribed in the minutes and a copy of this resolution be sent to Dr. Dixon's family with the sincere sympathy of our faculty.

Edward E. McKee, M.D.
Chairman
Jane K. Upshur, M.D.

## Hospital Not Liable for Attack by Released Patient

A decision to release a patient from a mental hospital is a matter of professional medical judgment, and there is no basis for liability even if the honest professional medical judgment was erroneous, a New York appellate court ruled.

A few weeks after discharge from the state mental hospital, the patient attacked a 19-year-old girl with a meat cleaver and butcher knife and severely injured her. The victim brought an action against the state. She claimed that the man was mentally ill and dangerous when discharged from the hospital and that he should have had continued hospital care. The trial court held that liability could not be based on the act of releasing the patient, because the release was founded on a diagnosis and decision based on medical judgment.

On appeal, the court agreed that the hospital could not be held liable on the basis of the medical decision, even if the decision was subsequently proved erroneous. The patient had been hospitalized on several occasions and was prone to committing assaults, having committed acts of violence on members of his own family. During his last hospitalization, he was given a series of physical and psychiatric examinations and was determined to be without mental disorder. He was discharged at his mother's request. The appellate court noted that the diagnosis of mental illness cannot be made with absolute precision, and it ruled that such diagnosis must involve a calculated risk.

Although two psychiatrists had testified that the physicians at the state hospital had made a poor diagnosis, there was no claim that they were incompetent or unqualified. Therefore, the appellate court held that the decision to release the patient was a professional medical judgment, for which there could be no liability even if it turned out to be erroneous.

The trial court did hold the state liable on the theory that hospital authorities had discharged the patient without taking reasonable precautions. Because the hospital knew the patient was potentially dangerous, the trial court said the hospital had a duty to determine whether his parents knew of the potential risk and whether they would exercise supervision. The court also said that the hospital had a duty to determine whether the patient would receive proper medical care after release.

Reversing this part of the decision holding the state liable, the appellate court said that, since the patient was entitled to release after being found free of mental disorder, the duty of hospital authorities was limited. They had been advised that the patient was to receive continued private psychiatric care. The court pointed out that, after discharge, the medication was not in control of the releasing hospital but was in the control of the person assuming responsibility for the patient. Hospital records indicated that the patient's parents had been informed of his condition but had requested his discharge and had agreed to pay for his support and psychiatric care.

Given these facts and the professional judgment that the patient was without mental illness, the court said that the hospital was required by the Mental Hygiene Law to release the patient. Because there was no legal requirement for post-release care upon which a finding of negligence could be based, the appellate court dismissed the claim.—*Cameron v. state of New York*, 322 N.Y.S.2d 562 (N.Y.Sup.Ct., App. Div., June 25, 1971)

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## Negligence and Causation Not Shown in Medical Malpractice Case

A medical malpractice case against an ophthalmologist for failing to diagnose a malignant melanoma of a patient's iris was properly dismissed, the Supreme Court of Montana ruled. The patient had failed to show that the ophthalmologist could have discovered the tumor or, if he had, that the patient's eye could have been saved.

The ophthalmologist had been the family's eye doctor. He examined the patient's eyes once each year from 1958 to 1961 and in 1963 and 1966. In 1966, he fitted her with corrective glasses.

In April, 1969, the patient failed the driver's visual acuity test. She consulted a second physician. He made a diagnosis of a malignant melanoma of the left iris. This diagnosis was confirmed by two other physicians.

The patient was hospitalized shortly thereafter. The second physician made the following entry in his records: "It is conceivable that the present lesion has been present for five years . . ." The following day he enucleated the eye (removed the eyeball).

The patient filed suit against the ophthalmologist. She claimed that he was negligent in failing to diagnose the tumor.

Prior to trial, the attorney for the ophthalmologist requested permission to confer with the patient's medical witnesses. Over the patient's objections, the trial court allowed him to confer with the witnesses without the patient's attorney being present.

At trial, several lay witnesses testified that over a period of eleven years the color of the patient's eye had changed from blue to hazel to brown. The physician who enucleated the eye was called as a witness by the patient. He said that the tumor probably was not present when the ophthalmologist had examined the patient. He also said that the eye was doomed by the time the tumor became detectable.

The patient also introduced an affidavit of the pathologist, who had examined a slide prepared from the patient's eye. The affidavit indicated that the pathological examination could not reveal the length of time the lesion had been present.

At the close of the patient's case, the trial court dismissed the lawsuit. On appeal, the patient claimed the trial court erred in dismissing the suit. The patient also claimed that the pretrial conference

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between the attorney for the ophthalmologist and her medical witnesses violated the physician-patient privilege.

Affirming the dismissal, the Supreme Court of Montana ruled that there was no evidence that the tumor could have been discovered by the ophthalmologist and no evidence that the eye could have been saved if he had discovered it. In view of this, the court held that the patient had failed to establish a prima facie case against the ophthalmologist notwithstanding the lay testimony as to the changes in the color of the patient's eye.

The pretrial examination of the patient's medical witnesses was proper, the court ruled. When the patient filed a lawsuit based on her personal injuries, the court held that she waived the physician-patient privilege. *Callahan v. Burton,* 487 P.2d 515 (Mont. Sup.Ct., July 26, 1971)

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**Medicolegal Risks Involved When Psychotherapist Prescribes Drugs**

The increasing use of drugs by psychotherapists and the medicolegal risks involved were discussed in a medicolegal quarterly. Traditionally, psychotherapists (who use only mental treatment, especially psychoanalysis) do not touch patients or attempt any physical treatment for fear of upsetting the therapeutic relationship. But when Thorazine and Serpasil were introduced in 1954 the psychoanalysts and psychiatrists had effective drugs, a form of physical treatment, to offer the patient.

Legal problems arise with the use of drugs in psychotherapy. There is often no set dose of the drug, frequent changes in dosage are often required, large amounts of the drug may have to be administered, and side effects have to be watched for all the time. For these reasons, complete physical examinations and blood tests may be required. Since many psychiatrists' offices do not have the necessary equipment or assistants for physical examinations or blood tests, and they do not want to upset the therapeutic relationship, they often prescribe drugs without proper safeguards. This makes the prescribing psychiatrist legally vulnerable if his patient, on tranquilizers, becomes dizzy and falls or has an automobile accident, and it is discovered that the psychotherapist has not taken the proper medical precautions, such as doing a physical examination of his patient.

There have not been many malpractice suits in this area so far and thus there is no body of law from which to draw precedents, but drug-law experts agree upon some general concepts. Besides the legal vulnerability present when a psychiatrist omits a proper physical examination, his legal liability increases markedly if he exceeds the ceilings recommended for dosage on the package insert. The degree of disclosure required to be given to the patient as to side effects varies according to circumstances, such as the patient's clinical condition and what activities he performs. If a doctor does withhold facts about side effects, the burden is on him to show why. Potentially toxic agents should be prescribed for a suicidal patient with great care in order to avoid legal liability. When a doctor does experimental work with a new, not yet established drug, informed patient consent must be obtained, preferably in writing. If an investigational drug is being used on a minor, the consent of a parent is needed. If the patient is acutely psychotic, it is advisable to have the consent of a legal guardian. While these measures cover the psychiatrist legally, there is still a financial danger involved in the use of all investigational drug, since malpractice insurance does not cover such cases, the author said.—*Psychotherapist Prescribes a Drug in His Office; Medicolegal Risks,* by William S. Appleton, M.D. 16 Medical Trial Technique Quarterly, No. 1, p. 33 (Sept. 1969) and No. 2, p. 51 (Dec. 1969), published by Callaghan and Company, 165 North Archer Avenue, Mundelein, Illinois 60060.

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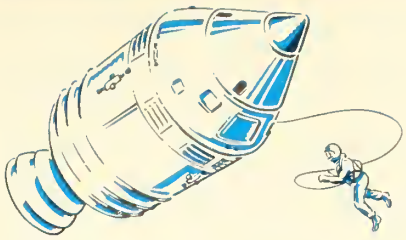
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All Mudranes are bronchodilator-mucolytic in action, and are indicated for symptomatic relief of bronchial asthma, emphysema, bronchiectasis and chronic bronchitis. **MUDRANE tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **Iodide side-effects:** May cause nausea. Very long use may cause goiter. Discontinue if symptoms of iodism develop. **Iodide contraindications:** Tuberculosis; pregnancy (to protect the fetus against possible depression of thyroid activity). **MUDRANE-2 tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline. **Iodide side-effects and contraindications are listed above. MUDRANE GG tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **MUDRANE GG-2 tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions:** Those for aminophylline. **MUDRANE GG Elixir.** Each teaspoonful (5 cc) contains 26 mg. glyceryl guaiacolate; 20 mg. theophylline; 5.4 mg. phenobarbital (Warning: may be habit-forming); 4 mg. ephedrine HCl. **Dosage:** Children, 1 cc for each 10 lbs. of body weight; one teaspoonful (5 cc) for a 50 lb. child. Dose may be repeated 3 or 4 times a day. Adult, one tablespoonful, 4 times daily. All doses should be followed with ½ to full glass of water. **Precautions:** See those listed above for Mudrane GG tablets.

**MUDRANE—original formula**
*First choice*

**MUDRANE-2**
*When ephedrine is too exciting or is contraindicated*

**MUDRANE GG**
*During pregnancy or when K.I. is contraindicated or not tolerated*

**MUDRANE GG-2**
*A counterpart for Mudrane-2*

**MUDRANE GG ELIXIR**
*For pediatric use or where liquids are preferred*

*Clinical specimens available to physicians.*

WILLIAM P. POYTHRESS & COMPANY, INC., RICHMOND, VIRGINIA 23217

*Manufacturers of Ethical Pharmaceuticals*

# Predictable. Economical. Well-tolerated.




If that's old-fashioned
why not make the most of it?

## Butisol SODIUM®
## (SODIUM BUTABARBITAL)

Tablets 15 mg., 30 mg.
Elixir 30 mg./5 cc. (alcohol 7%)

**Indications:** Useful as a daytime sedative when mild sedation is required for relief of symptoms of anxiety or tension resulting from emotional, physical, or situational stress.
**Contraindications:** Porphyria or sensitivity to barbiturates. **Warning:** May be habit forming.
**Precautions:** Exercise caution in moderate to severe hepatic disease. Elderly or debilitated patients may react with marked excitement or depression. **Adverse Reactions:** Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and systemic disturbances are seldom seen.
**Usual Adult Dosage:** For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d.
**Also available:** BUTICAPS® [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg.,

McNeil Laboratories, Inc., Fort Washington, Pa 19034

McNEIL

# When he goes back to work, will his old tensions go back with him?



When it's mandatory to keep the post-coronary patient calm, consider Valium® (diazepam).

Although he's promised to take it easy back on the job, you know he's going back to the sa stressful circumstances that may have contribut to his hospitalization. Your prescription for Valium can calm him. Lessened anxiety and tension can help in decelerating his former pace. During the period of readjustment Valium helps quiet undue anxiety.

For moderate states of psychic tension, 5-m or 2-mg Valium tablets *t.i.d.* or *q.i.d.* can usually provide reliable relief. For severe tension/anxie states, the 10-mg tablets often produce desired results.

The most commonly reported side effects are drowsiness, ataxia, and fatigue. Until individual response is determined, caution patient against driving or operati dangerous machinery.

# Valium® (diazepam)

## For the tense cardiac patient who must be kept calm

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation; tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2 mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose™ packages of 1000.

ROCHE

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Division of Hoffmann-La R
Nutley, N.J. 07110

Boston Massachusetts 02116

FRANCIS A. COUNTWAY
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BOSTON
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# The Journal of The SOUTH CAROLINA Medical Association


MATERNAL MORTALITY

BOWEL HEMORRHAGE

ELECTROMYOGRAPHY AS DIAGNOSTIC AID

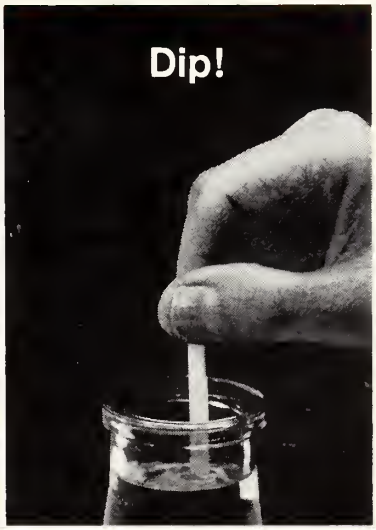
VIABLE ORGAN PROCUREMENT

ANNUAL MEETING, 1972


68 APRIL, 1972 NUMBER 4









**Simple, accurate test for glycosuria**

**TES-TAPE®**
URINE SUGAR ANALYSIS PAPER

Lilly

Leadership in Diabetes Research for Half a Century

*Additional information available upon request.* Eli Lilly and Company, Indianapolis, Indiana 46206

100133

# Pinworm therapy is often a family affair





**Contraindications:** History of hypersensitivity to thiabendazole.
**Warnings:** If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.
**Precautions:** Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
**Adverse Reactions:** Most frequently encountered are anorex nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddine and headache have occurred. Rarely, tinnitus, hyperirritabili numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise i cephalin flocculation and SGOT; perianal rash, cholestasis a parenchymal liver damage; hyperglycemia; transient leukop malodor of the urine, crystalluria, hematuria; appearance of Ascaris in the mouth and nose. Hypersensitivity reactions

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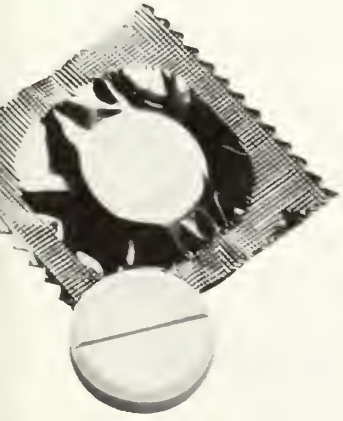
addendum

MSD
MERCK SHARP & DOHME

# A New Dosage Form:

# Chewable Tablets 500 mg Mintezol®

(THIABENDAZOLE | MSD)



o easy to take
veryone in the family
ll keep to the
gimen you prescribe

de: fever, facial flush, chills, conjunctival injection, edema, anaphylaxis, skin rashes, erythema multiforme uding Stevens-Johnson syndrome), and lymphadenopathy.
**lied:** Chewable tablets, containing 500 mg thiabendazole, xes of 36, strip packaged, individually foil wrapped; ension, containing 500 mg thiabendazole per 5 cc, in es of 120 cc.

*nore detailed information, consult your MSD representa-or see the Direction Circular. Merck Sharp & Dohme, ion of Merck & Co., Inc., West Point, Pa. 19486*

## INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infestations, whether encountered singly or in combination. Dosages are weight related; therefore, a weight-dose chart is included in the Direction Circular for your convenience when writing a prescription. MINTEZOL should be given after meals if possible.

| INDICATIONS | DOSAGE (1st Day) | ADDITIONAL REGIMEN | COMMENTS |
|---|---|---|---|
| Pinworm disease | Two doses of 1 tablet/50 lb | Repeat 7 days later | This regimen is designed to reduce the risk of reinfection. However, if not practical, repeat the regimen the next day. |
| Threadworm,* large roundworm,* hookworm,* and whipworm* disease | Two doses of 1 tablet/50 lb | Repeat the next day | Alternatively, a single dose of 2 tablets/50 lb may be given. However, a higher incidence of side effects should be expected. |
| Creeping eruption | Two doses of 1 tablet/50 lb | Repeat the next day | If active lesions are still present 2 days after completing this regimen, a second course is recommended. |
| Symptoms of trichinosis* during the invasive phase of the disease | Two doses of 1 tablet/50 lb | Repeat for 2 to 4 successive days | The optimal dosage for the treatment of trichinosis has not been established. |

The recommended maximal daily dosage is 3 g (6 tablets).

*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

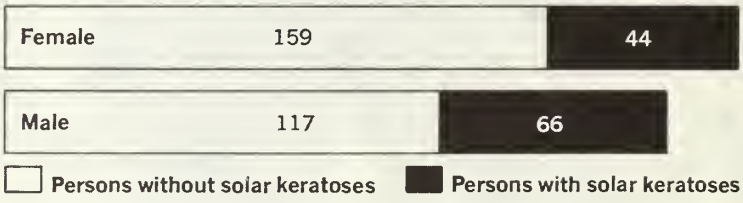
# What it means to live and work in Tipton County, Tennessee

## Persons who are white and over 40 have one chance in four of having solar keratoses... which may be premalignant

An epidemiologic study* conducted in Tipton County, Tennessee, revealed that 28.5% of white persons over 40 had solar keratoses; most had multiple lesions. Cluster sampling projected an estimated prevalence of 32.5% for white males and 19.5% for white females.

Though this is an unusually high percentage of affected persons, these lesions can occur in any white population, wherever people work or play out of doors.

**Prevalence of solar keratoses in white persons over 40 in Tipton County, Tennessee**




*Data on file, Hoffmann-La Roche Inc., Nutley, New Jersey.



## lar, actinic, senile keratoses

led by many names, the typical lesion is flat lightly elevated, brownish or reddish in or, papular, dry, adherent, rough, sharply ned; usually multiple lesions, chiefly on osed portions of the skin.

## quence/selectivity of response

thema in areas of lesions may begin after eral days of therapy; height of reaction y in affected areas)* usually occurs within weeks, declining after discontinuation of apy. Since this response is so predictable, ons that do not respond should be biopsied ule out the presence of a frank neoplasm.

## osmetic results

metic results are highly favorable. Incice of scarring is low—important with multifacial lesions. Efudex should be applied care near the eyes, nose and mouth.

## cream–a Roche exclusive

y Roche formulates the 5% cream... in patient acceptability... high in clinical acy, especially for lesions of hands and arms... economical.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Multiple actinic or solar keratoses.

**Contraindications:** Patients with known hypersensitivity to any of its components.

**Warnings:** If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

**Precautions:** If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

**Adverse Reactions:** Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

**Dosage and Administration:** Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

**How Supplied:** Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

## an alternative to conventional therapy

# Efudex®
# (fluorouracil)
## cream/solution

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Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110



*The Journal of The*
SOUTH CAROLINA
*Medical Association*

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The views expressed in this publication are those of the writers and do n necessarily reflect the opinions of the South Carolina Medical Association.

**Contributions of Original Articles**

Length—Short articles of about 2,500 words (about 8 typewritten pages, doub spaced) are preferred. Longer articles ordinarily will defer to the shorter ones schedule of publication.

Manuscripts—Manuscripts should be typewritten, double spaced, and the origin and a carbon copy submitted.

Illustrations—Ordinarily publication of 4 small illustrations or the equivale accompanying an article will be paid for by The Journal. Any number beyond th must be paid for by the author except under unusual conditions. Illustrations shou be sent as glossy prints or graphs in black ink with lettering large enough to sho after reduction.

References—Should conform to the following order: surname and initials author, title of article in small letters, name of periodical, with volume, pag month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhyth following therapy with digitalis, Arch Int Med 44:554, Dec. 1942. They should listed numerically in order of appearance in the text. Standard abbreviation f journals should be used. Note that periods are not used with these abbreviations indicated by the Index Medicus. Other abbreviations should also be standard—e.g. m ml, Gm.

Reprints—Reprints will be made for the author at established rates.



# rheumatoid arthritic blowup...

## Tandearil® Geigy

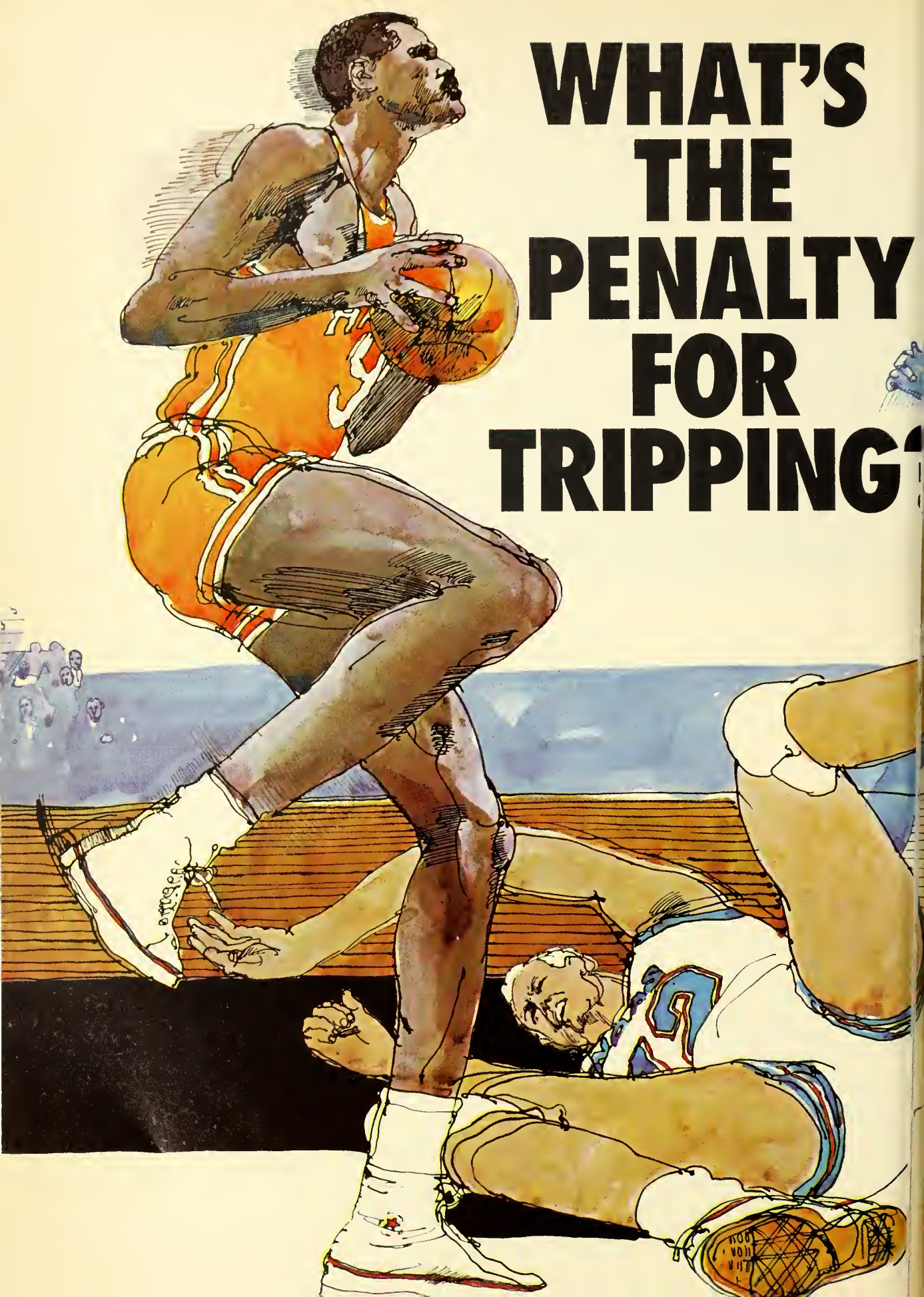
oxyphenbutazone NF tablets of 100 mg.

*rtant Note:* This drug is not e simple analgesic. ot administer casuelly. Carefully evaluete petients e starting treatment and keep them under close vision. Obtain e deteiled history, end complete cal and leboretory examinetion (complete gram, urinalysis, etc.) before prescribing end et ent intervals thereafter. Carefully select petients, ing those responsive to routine meesures, con- licated patients or those who cannot be observed ently. Warn patients not to exceed recommended ge. Short-term relief of severe symptoms with nallest possible dosage is the goel of therapy. ge should be taken with meals or a full glass of Petients should discontinue the drug end report diately any sign of: fever, sore throat, oral ns (symptoms of blood dyscrasia); dyspepsie, stric pain, symptoms of anemia, black or terry s or other evidence of intestinal ulceration or rrhage, skin reactions, significant weight gain or a. A one-week trial period is adequate. Discon- in the absence of a fevorable response. Restrict nent periods to one week in petients over sixty.
*ations:* Acute gouty arthritis, rheumatoid arthritis, natoid spondylitis.
*raIndications:* Children 14 years or less; senile nts; history or symptoms of G.I. inflammation or ation including severe, recurrent or persistent epsia; history or presence of drug allergy; blood rasias; renal, hepatic or cardiac dysfunction; tension; thyroid disease; systemic edema; atitis and salivary gland enlargement due to the polymyalgia rheumatica and temporal arteritis; nts receiving other potent chemotherapeutic ts, or long-term enticoagulant therapy.
*ings:* Age, weight, dosage, duration of therapy, ence of concomitant diseases, and concurrent it chemotherapy affect incidence of toxic reac- Cerefully instruct and observe the individuel nt, especially the eging (forty years and over) have increased susceptibility to the toxicity of the Use lowest effective dosage. Weigh initially dictable benefits egeinst potentlal risk of severe, fetal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fetel, blood dyscrasias, including eplastic anemia, mey occur suddenly despite reguler hemograms, and mey become manifest deys or weeks after cessation of drug. Any significent change in totel white count, relative decreese in granulocytes, eppearance of immature forms, or fell in hematocrit should signal immediate cessation of therapy and complete hematologic investigetion. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiete ection of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients teking these egents. Nontoxic and toxic goiters end myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological exeminetion. Swelling of enkles or face in petients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.
*Precautions:* The following should be accomplished at regular intervals: Careful detailed history for diseese being treated and detection of earliest signs of adverse reections; complete physicel exemination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, es driving e car, etc. Ceses of leukemia have been reported in patients with e history of short-end long-term therapy. The majority of these patients were over forty. Remember that arthritic-type peins cen be the presenting symptom of leukemia.
*Adverse Reactions:* This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis, epigastric pain, hematemesis, dyspepsia, nausee, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemie, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plesme dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfetal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angiitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumetica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement.
(B) 98-146-800-E

*For complete details, including dosage, please see full prescribing information.*

GEIGY Pharmaceuticals
Division of CIBA-GEIGY Corporation
Ardsley, New York 10502

TA-8356-9


WHAT'S
THE
PENALTY
FOR
TRIPPING?




A personal foul against the tripper, and possibly weeks of painful skeletal muscle spasm for the victim.

For the skeletal muscle spasm of leg strains, Valium® (diazepam) can be a valuable adjunct. A dose of 2-10 mg, three or four times a day, goes to work to help break up the cycle of spasm/pain/spasm. The resultant relief of skeletal muscle spasm may permit greater mobilization of the affected muscles and may help the patient resume usual activities sooner than otherwise possible.



*Sudden trauma to and unusual stress on sartorius muscle may cause strain of muscle and tearing of some of the fibers. The resultant muscle spasm can make leg motion painful.*

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc
Nutley, N.J. 07110

# VALIUM® (diazepam)

## adjunct in skeletal muscle spasm

2-mg, 5-mg, 10-mg tablets

# To get the water out in edema*

# To lower blood pressure in hypertension*

# To spare potassium in both

# There's

# Dyazide®

Trademark

Each capsule contains 50 mg. of Dyrenium® (brand of triamterene) and 25 mg. of hydrochlorothiazide.

Before prescribing, see complete prescribing information in SK&F literature or *PDR*.

***Indications:** Edema associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome, late pregnancy; also steroid-induced and idiopathic edema, and edema resistant to other diuretic therapy. 'Dyazide' is also indicated in the treatment of mild to moderate hypertension.

**Contraindications:** Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

**Warnings: Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired.** Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., certain elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—they can both cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

**Precautions:** Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect.

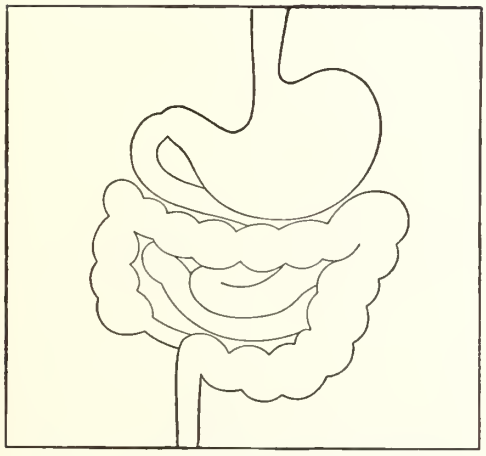
**Adverse Reactions:** Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Rarely, necrotizing vasculitis, paresthesias, icterus, pancreatitis, and xanthopsia have occurred with thiazides alone.

**Supplied:** Bottles of 100 capsules.

SK&F CO.
**Carolina, P.R. 00630**
**a subsidiary of Smith Kline & French Laboratories**

DZ-106

# in "Gasspastic" conditions



The GI tract in spasm is commonly a "gas trap."

Sidonna® is formulated to release entrapped gas, as well as to provide antispasmodic/sedative effects.

In addition to the traditional combination of belladonna alkaloids and butabarbital (warning: may be habit forming.), Sidonna contains simethicone—a non-systemic defoaming agent that "lyses" gas bubbles on contact.

Sidonna has the ability to relieve GI spasm, pain **and gas** in the irritable bowel syndrome, spastic colon, pylorospasm, gastroenteritis, gastritis, nausea, nervous indigestion, or gastric and duodenal ulcer.

**Sidonna can calm GI spasm...control anxiety...and release entrapped GI gas from the system.**

Sidonna can do more for your "gasspastic" patient. Try him on 1 or 2 tablets before meals and at bedtime.

# Sidonna®

Each scored tablet contains: Specially activated simethicone 25 mg.; hyoscyamine sulfate 0.1037 mg., atropine sulfate 0.0194 mg., hyoscine hydrobromide 0.0065 mg. (equivalent to belladonna alkaloids [as bases] 0.1049 mg.) and butabarbital sodium N.F. 16 mg. (Warning: May be habit forming.)

# can do more

**Contraindications:** Anticholinergics should not be used in patients with glaucoma, known prostatic hypertrophy, or pyloric obstruction. Urinary retention may indicate the presence of prostatic hypertrophy. If it occurs, the dose should be reduced or the drug withdrawn. Also contraindicated in patients with known hypersensitivity to one of the components.
**Side Effects:** Dryness of the mouth, blurred vision, dysuria, skin rash, constipation or drowsiness may occur.

**Reed & Carnrick**/ Kenilworth, New Jersey 07033

# When you prescribed Orinase®

## (tolbutamide, Upjohn)

# 14 years ago, you had to rely on our experience.

An orally active hypoglycemic agent principally indicated in relatively mild, adult, maturity-onset, non-ketotic diabetes; also, as a supplement to insulin therapy in selected diabetic patients, it may effect a stabilization of labile diabetes and reduce insulin requirements. Certain patients intolerant to chlorpropamide therapy at usual therapeutic doses have subsequently been successfully managed with Orinase (tolbutamide).

Use in mild asymptomatic diabetic patients with abnormal glucose tolerance tests not responding to diet therapy may result in improvement of the glucose tolerance test.

Use in conjunction with phenformin is indicated when optimal control is not obtained with Orinase or phenformin alone.

**Contraindications:** Orinase alone is not effective in juvenile or growth-onset diabetes nor in unstable brittle diabetes where insulin therapy is required.

Orinase should not be used: when diabetes is complicated by acidosis, ketosis, or coma, or when a history of repeated bouts of acidosis or coma is obtained; in the presence of other acute complications such as fever, severe trauma, or infections; and in patients with severe renal insufficiency. Insulin is indicated in these circumstances.

**Pregnancy Warning:** The safety and usefulness of Orinase during pregnancy has not been established either from the standpoint of the mother or the fetus. Animal studies have demonstrated feticidal and teratogenic effects of doses of 1,000-2,500 mg./kg./day, but application to human subjects unknown. Therefore, Orinase is not recommended for the pregnant diabetic, and when administering Orinase to women of childbearing age, these facts should be borne in mind.

**Precautions:** Diagnostic and therapeutic measures necess for optimal control with insulin are also necessary with Orina The patient on Orinase must be fully instructed: about nature of his disease; how to prevent and detect complicati how to control his condition; not to neglect dietary restricti develop a careless attitude or disregard instructions relativ body weight, exercise, personal hygiene, and avoidance o fection; how to recognize and counteract impending hypo cemia; how and when to test for glycosuria and ketonuria; to use insulin; and to report to the physician immediately i does not feel as well as usual.

Caution, very close observation, and careful adjustmer dose are necessary when: insulin is withdrawn during the period in order to avoid ketosis, acidosis, and coma; thia diuretics are administered which may result in aggravatio diabetic state and increased tolbutamide requirement, ter rary loss of control, or even secondary failure; treating pat with impaired hepatic and/or renal function and debilitated, nourished, or semistarved patients in order to avoid severe h glycemia which may require corrective therapy over se days; and treating patients with severe trauma, infection, or gical procedures where temporary return to insulin or adc of insulin may be necessary. Response to tolbutamide is d ished in patients receiving therapy with beta blocking ag

As some diabetics are not suitable candidates, it is esse that the physician familiarize himself with the indications, of application, and selection of patients for therapy.

Patients must be under continuous medical supervision a during the initial test period should communicate with the p

# Today you have your own.

If you're around 40 or 45, you've bably had quite a bit of clinical experience h Orinase.

Maybe as much as 14 years.

And that means you know quite a about it.

On the one hand, you know that diet l weight control are the initial and essential ndations for the management of adult- et, non-ketotic diabetes. When these asures prove satisfactory, no additional rapy is indicated. On the other hand, you w that if these measures fail the addition of Orinase to the regimen can often help lower blood sugar. Orinase lowers blood sugar as effectively today as it did when you first prescribed it.

You also know the importance of close monitoring of the patient. Although uncommon, severe hypoglycemia may occur if the dosage is not tailored to suit his requirements.

In short, Orinase is a drug you're familiar with, and probably have confidence in.

And that may be the best recommendation Orinase can have.

## Orinase®

0.5 g. tablets

(tolbutamide, Upjohn)

n daily, and during the first month report at least once weekly physical examination and definitive evaluation. After a month, minations are recommended monthly or as indicated. Appearance of ketonuria, increase in glycosuria, unsatisfactory ering or persistent elevation of blood sugar, or failure to ain and hold clinical improvement indicate nonresponsiveness to Orinase (tolbutamide). Orinase does not obviate need for ntaining standard diet regulation. Uncooperative patients uld be considered unsuitable for therapy. Prescriptions should refilled only on specific instruction of physician. In treating d asymptomatic diabetic patients with abnormal glucose rance, glucose tolerance tests should be obtained at three- ix-month intervals. Orinase is not an oral insulin or a substi- e for insulin and must not be used as sole therapy in juvenile betes or in diabetes complicated by acidosis or coma where ulin is indispensable.

f phenformin is prescribed in combination with Orinase, appriate package literature should be consulted.

**dverse Reactions:** Severe hypoglycemia, though uncommon, y occur and may mimic acute neurologic disorders such as ebral thrombosis. Certain factors such as hepatic and renal ease, malnutrition, advanced age, alcohol ingestion, and enal and pituitary insufficiency may predispose to hypoglynia and certain drugs such as insulin, phenformin, sulfonaes, oxyphenbutazone, salicylates, probenecid, monamine dase inhibitors, phenylbutazone, bishydroxycoumarin, and nyramidol may prolong or enhance the action of Orinase and rease risk of hypoglycemia. Orinase long-term therapy has n reported to cause reduction in RAI uptake without producing clinical hypothyroidism or thyroid enlargement and at high doses is mildly goitrogenic in animals. Photosensitivity reactions, disulfiram-like reactions after alcohol ingestion, and false-positive tests for urine albumin have been reported.

Although usually not serious, gastrointestinal disturbances (nausea, epigastric fullness, and heartburn) and headache appear to be dose related and frequently disappear with reduction of dose or administration with meals. Allergic skin reactions (pruritus, erythema, urticaria, and morbilliform or maculopapular eruptions) are transient, usually not serious, and frequently disappear with continued administration. Orinase should be discontinued if skin reactions persist. Recent reports indicate that long-term use of Orinase has no appreciable effect on body weight.

Orinase appears to be remarkably free from gross clinical toxicity: crystalluria or other renal abnormalities have not been observed; incidence of liver dysfunction is remarkably low and jaundice has been rare and cleared readily on discontinuation of drug (carcinoma of the pancreas or other biliary obstruction should be ruled out in persistent jaundice); leukopenia; agranulocytosis; thrombocytopenia; hemolytic anemia; aplastic anemia; pancytopenia; and hepatic porphyria and porphyria cutanea tarda have been reported.

**Supplied:** *0.5 g. Tablets*—bottles of 50, 200, 500, and 1,000, and cartons of 100 in foil strips.

**For additional product information, see your Upjohn representative or consult the package insert.**

The Upjohn Company, Kalamazoo, Michigan 49001

Upjohn

© 1971 The Upjohn Company JA71-1495 MED B-5-S LAO-6

# Something new in ampicillin therapy: **low cost**




**Versapen-K®**
POTASSIUM HETACILLI
the ampicillin derivat

Each capsule contains potassium hetacillin equiva
225 mg. or 450 mg. ampicillin.

BRISTOL
BRISTOL LABORATORIES
Division of Bristol-Myers
Syracuse, New York 132

# Survival of the fittest




Remarkably well tolerated.
Highly predictable.
Prompt, smooth, gentle action.
Saves your patients money.

## Butisol SODIUM®
## (SODIUM BUTABARBITAL)

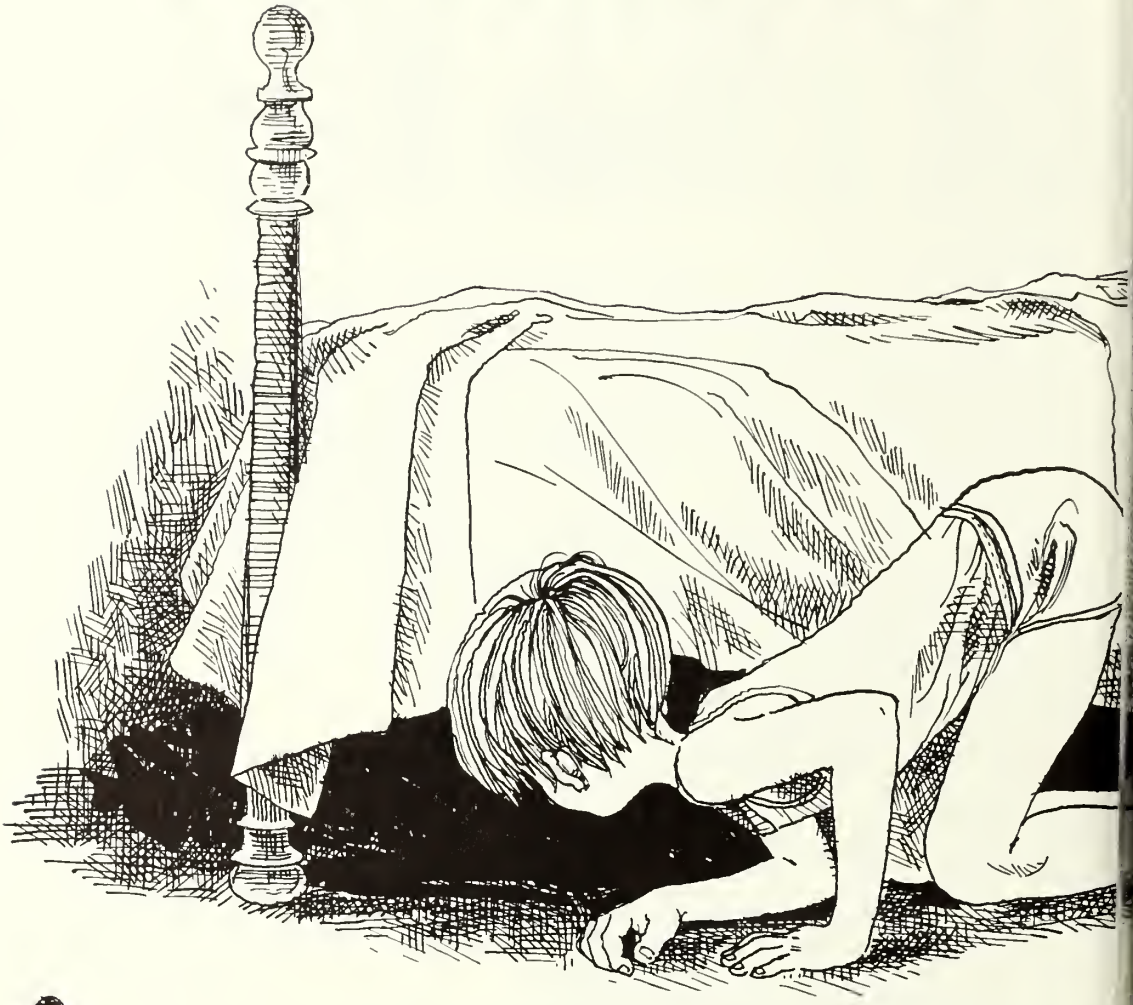
Tablets 15 mg., 30 mg.
Elixir 30 mg./5 cc. (alcohol 7%)

**Indications:** Useful as a daytime sedative when mild sedation is required for relief of symptoms of anxiety or tension resulting from emotional, physical, or situational stress.
**Contraindications:** Porphyria or sensitivity to barbiturates. **Warning:** May be habit forming.
**Precautions:** Exercise caution in moderate to severe hepatic disease. Elderly or debilitated patients may react with marked excitement or depression. **Adverse Reactions:** Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and systemic disturbances are seldom seen.
**Usual Adult Dosage:** For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d.
**Also available:** BUTICAPS® [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg.

McNeil Laboratories, Inc., Fort Washington, Pa. 19034

McNEIL

# Arthur los





**A single-dose, non-staining anthelm**

# is pinworms...



with just one non-staining dose of Antiminth (pyrantel pamoate) Oral Suspension.

**Highly effective.** Active against pinworm...and roundworm.

**Non-staining.** Doesn't stain teeth or oral mucosa on ingestion. Doesn't stain stools, clothing or linen.

**Simple dosage.** Single-dose regimen: 1 cc. per 10 lbs. of body weight (1 tsp. per 50 lbs.).

**Well-tolerated.** Based on pre-introductory studies.

**Pleasant-tasting.** Easy-to-take, caramel-flavored oral suspension.

**Economical.** One prescription for the entire family.

**Antiminth (pyrantel pamoate) Oral Suspension**

**Actions.** Antiminth (pyrantel pamoate) has demonstrated anthelmintic activity against *Enterobius vermicularis* (pinworm) and *Ascaris lumbricoides* (roundworm). The anthelmintic action is probably due to the neuromuscular blocking property of the drug.

Antiminth is partially absorbed after an oral dose. Plasma levels of unchanged drug are low. Peak levels (0.05-0.13 μg/ml) are reached in 1-3 hours. Quantities greater than 50% of administered drug are excreted in feces as the unchanged form, whereas only 7% or less of the dose is found in urine as the unchanged form of the drug and its metabolites.

**Indications.** For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

**Warnings.** *Usage in Pregnancy:* Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

**Precautions.** Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with pre-existing liver dysfunction.

**Adverse Reactions.** The most frequently encountered adverse reactions are related to the gastrointestinal system.

Gastrointestinal and hepatic reactions: anorexia, nausea, vomiting, gastralgia, abdominal cramps, diarrhea and tenesmus, transient elevation of SGOT.

CNS reactions: headache, dizziness, drowsiness, and insomnia.

Skin reactions: rashes.

**Dosage and Administration.** *Children and Adults* Antiminth Oral Suspension (50 mg. of pyrantel base/ml.) should be administered in a single dose of 11 mg of pyrantel base per kg. of body weight (or 5 mg /lb ); maximum total dose 1 gram. This corresponds to a simplified dosage regimen of 1 cc. of Antiminth per 10 lbs. of body weight. (One teaspoonful = 5 cc )

Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day; and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices. Because of limited data on repeated doses, no recommendations can be made.

**How Supplied.** Antiminth is available as a pleasant tasting caramel-flavored suspension which contains the equivalent of 50 mg pyrantel base per ml., supplied in 60 cc. bottles.

nt: **new ANTIMINTH®**

**(pyrantel pamoate)**

equivalent to 50 mg. pyrantel/ml.

ORAL SUSPENSION

ROERIG Pfizer

A division of Pfizer Pharmaceuticals
New York, New York 10017

# Lofty Hemorrhoids

Mr. H.H., 55, high steel construction worker. For several years, other medications provided little or no relief from pain, burning, and itching of internal and external hemorrhoids. Made worse by much heavy lifting which increased pressure in the intrahemorrhoidal plexus. "It wasn't serious enough," so he procrastinated in consulting a doctor. Was also afraid the doctor might find something really serious. Bright blood appearing in the toilet bowl and on toilet tissue scared him into seeing doctor. However, careful history and examination disclosed internal hemorrhoids.



a typical proctological patient

to help relieve the pain, itching, burning associated with this and similar anorectal conditions

prescribe

## Anusol-HC®

hemorrhoidal suppositories

with hydrocortisone acetate



Each suppository contains hydrocortisone acetate 10 mg, bismuth subgallate 2.25%, bismuth resorcin compound 1.75%, benzyl benzoate 1.2%, Peruvian balsam 1.8%, zinc oxide 11.0%, and boric acid 5.0%, plus the following inactive ingredients: bismuth subiodide, calcium phosphate, and coloring in a bland hydrogenated vegetable oil base.

**Precaution** Prolonged or excessive use of Anusol-HC might produce systemic corticosteroid effects. Symptomatic relief should not delay definitive diagnosis or treatment.

**Dosage and Administration** Anusol-HC: One suppository in the morning and one at bedtime for 3 to 6 days or until the inflammation subsides. Regular Anusol: One suppository in the morning, one at bedtime and one immediately following each evacuation.

**And for long-term patient comfort... recommend Anusol®** hemorrhoidal suppositories

Each suppository contains the ingredients of Anusol-HC without the hydrocortisone.

Warner-Chilcott

Division, Warner-Lambert Company
Morris Plains, New Jersey 07950

ANC-4

# Mylanta®
# 24 million hours a day.

Through the day, every day,
ulcer patients take
one million doses of Mylanta
for relief of ulcer pain.



**Mylanta®**
LIQUID/TABLETS
aluminum and magnesium hydroxides plus simethicone

Good taste = patient acceptance
Relieves G.I. gas distress*
Non-constipating

*with the defoaming action of simethicone

Stuart PHARMACEUTICALS Pasadena, Calif. 91109
Division of Atlas Chemical Industries, Inc., Wilmington, Del. 19899



# a new outlook in chronic pain

## of moderate to severe intensity

Though Talwin® can be compared to codeine in analgesic efficacy, it is not a narcotic. So patients receiving Talwin for prolonged periods face fewer of the consequences you've come to expect with narcotic analgesics. And that, in the long run, can mean a better outlook for your chronic-pain patient.

**Talwin Tablets are:**

- **Comparable to codeine in analgesic efficacy:** one 50 mg. Talwin Tablet appears equivalent in analgesic effect to 60 mg. (1 gr.) of codeine. Onset of significant analgesia usually occurs within 15 to 30 minutes. Analgesia is usually maintained for 3 hours or longer.
- **Tolerance not a problem:** tolerance to the analgesic effect of Talwin Tablets has not been reported, and no significant changes in clinical laboratory parameters attributable to the drug have been reported.
- **Dependence rarely a problem:** during three years of wide clinical use, only a few cases of dependence have been reported. In prescribing Talwin for chronic use, the physician should take precautions to avoid increases in dose by the patient and to prevent the use of the drug in anticipation of pain rather than for the relief of pain.
- **Not subject to narcotic controls:** convenient to prescribe – day or night – even by phone.
- **Generally well tolerated by most patients:** infrequently cause decrease in blood pressure or tachycardia; rarely cause respiratory depression or urinary retention; seldom cause diarrhea or constipation. If dizziness, lightheadedness, nausea or vomiting are encountered, these effects tend to be self-limiting and to decrease after the first few doses. (See last page of this advertisement for a complete discussion of adverse reactions and a brief discussion of other Prescribing Information.)

50 mg. Tablets

**Talwin®**

brand of

**pentazocine** (as hydrochloride)

the long-range analgesic

# a new outlook in chronic pain

## of moderate to severe intensity



**Contraindications:** Talwin, brand of pentazocine (as hydrochloride), should not be administered to patients who are hypersensitive to it.

**Warnings:** *Head Injury and Increased Intracranial Pressure.* The respiratory depressant effects of Talwin and its potential for elevating cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions, or a pre-existing increase in intracranial pressure. Furthermore, Talwin can produce effects which may obscure the clinical course of patients with head injuries. In such patients, Talwin must be used with extreme caution and only if its use is deemed essential.

*Usage in Pregnancy.* Safe use of Talwin during pregnancy (other than labor) has not been established. Animal reproduction studies have not demonstrated teratogenic or embryotoxie effeets. However, Talwin should be administered to pregnant patients (other than labor) only when, in the judgment of the physician, the potential benefits outweigh the possible hazards. Patients receiving Talwin during labor have experienced no adverse effeets other than those that occur with commonly used analgesics. Talwin should be used with caution in women delivering premature infants.

*Drug Dependence.* There have been instances of psychological and physical dependence on parenteral Talwin in patients with a history of drug abuse and, rarely, in patients without such a history. Abrupt discontinuance following the extended use of parenteral Talwin has resulted in withdrawal symptoms. There have been a few reports of dependence and of withdrawal symptoms with orally administered Talwin. Patients with a history of drug dependence should be under close supervision while receiving Talwin orally.

In prescribing Talwin for chronic use, the physician should take precautions to avoid increases in dose by the patient and to prevent the use of the drug in anticipation of pain rather than for the relief of pain.

*Acute CNS Manifestations.* Patients receiving therapeutie doses of Talwin have experienced, in rare instances, hallucinations (usually visual), disorientation, and confusion which have cleared spontaneously within a period of hours. The mechanism of this reaction is not known. Such patients should be very closely observed and vital signs checked. If the drug is reinstituted it should be done with caution since the acute CNS manifestations may recur.

*Usage in Children.* Because clinieal experience in children under 12 years of age is limited, administration of Talwin in this age group is not recommended.

*Ambulatory Patients.* Since sedation, dizziness, and occasional euphoria have been noted, ambulatory patients should be warned not to operate machinery, drive cars, or unnecessarily expose themselves to hazards.

**Precautions:** *Certain Respiratory Conditions.* Although respiratory depression has rarely been reported after oral administration of Talwin, the drug should be administered with caution to patients with respiratory depression from any cause, severe bronchial asthma and other obstructive respiratory conditions, or cyanosis.

*Impaired Renal or Hepatic Function.* Decreased metabolism of the drug by the liver in extensive liver disease may predispose to accentuation of side effects. Although laboratory tests have not indicated that Talwin causes or increases renal or hepatic impairment, the drug should be administered with caution to patients with such impairment.

*Myocardial Infarction.* As with all drugs, Talwin should be used with caution in patients with myocardial infarction who have nausea or vomiting.

*Biliary Surgery.* Until further experience is gained with the effects of Talwin on the sphincter of Oddi, the drug should be used wit caution in patients about to undergo surgery of the biliary trac

*Patients Receiving Narcotics.* Talwin is a mild narcotic antagonis Some patients previously receiving narcotics have experienced mi withdrawal symptoms after receiving Talwin.

*CNS Effect.* Caution should be used when Talwin is administere to patients prone to seizures; seizures have occurred in a few suc patients in association with the use of Talwin although no cause ar effect relationship has been established.

**Adverse Reactions:** Reactions reported after oral administratic of Talwin include *gastrointestinal:* nausea, vomiting; infrequent constipation; and rarely abdominal distress, anorexia, diarrhe *CNS effects:* dizziness, lightheadedness, sedation, euphoria, hea ache; infrequently weakness, disturbed dreams, insomnia, syncor visual blurring and focusing difficulty, hallucinations (see *Acu CNS Manifestations* under WARNINGS); and rarely tremor, iri tability, excitement, tinnitus. *Autonomic:* sweating; infrequent flushing; and rarely chills. *Allergie:* infrequently rash; and rare urticaria, edema of the face. *Cardiovascular:* infrequently decrea in blood pressure, taehycardia. *Other:* rarely respiratory depressio urinary retention.

**Dosage and Administration:** *Adults.* The usual initial adult dose 1 tablet (50 mg.) every three or four hours. This may be increas to 2 tablets (100 mg.) when needed. Total daily dosage should n exceed 600 mg.

When antiinflammatory or antipyretie effects are desired in ad tion to analgesia, aspirin can be administered concomitantly wi Talwin.

*Children Under 12 Years of Age.* Since elinical experience in ch dren under 12 years of age is limited, administration of Talwin this age group is not recommended.

*Duration of Therapy.* Patients with chronie pain who have receiv Talwin orally for prolonged periods have not experienced wit drawal symptoms even when administration was abruptly disc tinued (see WARNINGS). No tolerance to the analgesic effect h been observed. Laboratory tests of blood and urine and of liver a kidney function have revealed no significant abnormalities aft prolonged administration of Talwin.

**Overdosage:** *Manifestations.* Clinical experience with Talwin ov dosage has been insufficient to define the signs of this condition.

*Treatment.* Oxygen, intravenous fluids, vasopressors, and otl supportive measures should be employed as indicated. Assisted controlled ventilation should also be considered. Although nal phine and levallorphan are *not* effective antidotes for respirat depression due to overdosage or unusual sensitivity to Talwin, p enteral naloxone (Narcan®, available through Endo Laboratories, a specific and effective antagonist. If naloxone is not available, p enteral administration of the analeptic, methylphenidate (Ritalin may be of value if respiratory depression occurs.

Talwin is not subject to narcotic controls.

**How Supplied:** Tablets, peach color, scored. Each tablet conta Talwin (brand of pentazocine) as hydrochloride equivalent to 50 r base. Bottles of 100.

Winthrop Winthrop Laboratories, New York, N. Y. 10016 (158

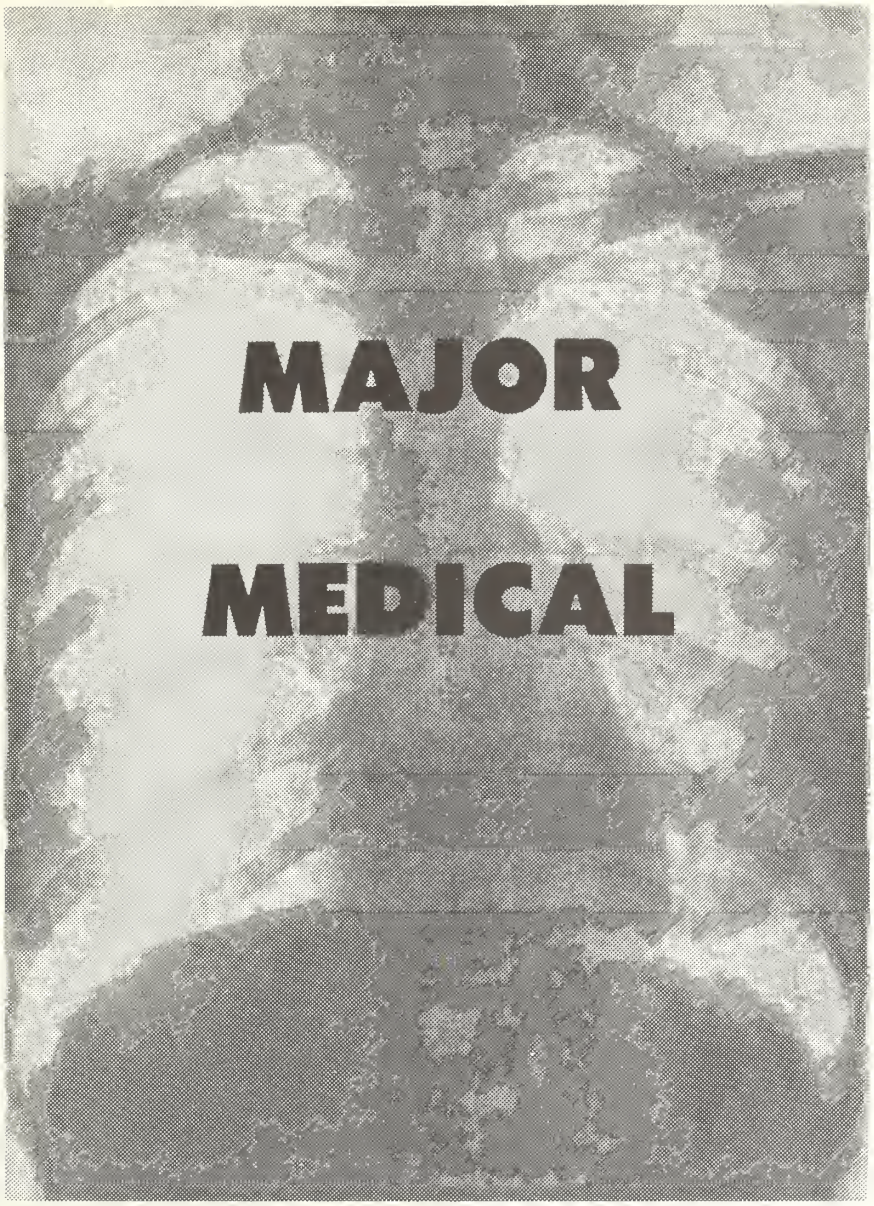
**50 mg. Tablets**

# Talwin®

brand of

## pentazocine (as hydrochloride)

## the long-range analgesic




**Sees you through** *Blue Cross–Blue Shield* OF SOUTH CAROLINA

Pay for X-tras too:

1. Major Medical is coverage in addition to your basic plans.
2. Major Medical pays 80% of your health care expenses not covered by basic plans . . . up to $5,000 or $10,000 or $20,000.
3. Blue Cross Major Medical is best and least expensive, but is available only to those with Blue Cross-Blue Shield Basic Coverage.

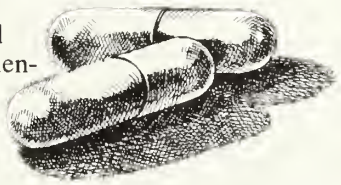
# Because you practice medicine in the Palmetto State...



# You carry one of the heaviest patient loads in the country. Since this may include a number of patients with gastritis and duodenitis... you should know more about Librax®

## Helps reduce anxiety-related G.I. symptoms

A patient may blame his attacks of gastritis or duodenitis on "something he ate" but contributing factors may be his job, marital problems, financial worries or some other unmentioned source of stress and excessive anxiety that exacerbated the condition. Whether it is "something he ate" or "something eating him," adjunctive Librax can help. Librax offers both the antianxiety action of Librium® (chlordiazepoxide HCl), that can help relieve excessive anxiety, and the dependable anticholinergic action of Quarzan® (clidinium Br), that can help reduce gastrointestinal hypermotility and hypersecretion.



## Patient-oriented dosage — up to 8 capsules daily in divided doses

For optimal response, dosage can be adjusted to suit patient needs—1 or 2 capsules, 3 or 4 times a day.

# To help relieve anxiety-linked symptoms in gastritis and duodenitis

# adjunctive Librax® ROCHE

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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# SOUTH CAROLINA MATERNAL MORTALITY REVIEW FOR 1969

JOHN G. EICHELBERGER, M. D.
E. J. DENNIS, III, M. D.

A maternal death is a death from any cause of a woman during pregnancy or within 90 days of termination of pregnancy irrespective of the duration of pregnancy at the time of termination or the method by which it is terminated.

Maternal mortality figures in a given state are important reflections of the overall health care received by women during their pregnancy in that particular state. Analysis of the maternal mortality figures and investigation of maternal deaths often show us ways to prevent maternal deaths and improve obstetrical care. It was noted years ago that an important factor in decreasing maternal deaths and improving obstetrical care in a state was the establishment of the Maternal Health Committee.

Each year since 1948 the South Carolina Medical Association has appointed a maternal health committee to review and evaluate the maternal deaths in South Carolina. This year the committee is composed of ten members, all of whom are physicians, and includes two obstetricians, three general practitioners, one pathologist, one internist, one anesthesiologist, and two representatives of the State Board of Health. All maternal deaths reported to the Bureau of Vital Statistics of the State Health Department are reviewed by this committee. The involved physician is asked to submit a summary of the case to the Maternal Health Committee. All important information such as hospital discharge summaries and autopsy reports are also obtained. The physician is asked to attend the Committee Meeting when his case is reviewed. It is not the purpose, or the authority, of the Committee to censor or reprimand the involved physician. When indicated, especially in a preventable death, the Committee will make recommendations to the physician and suggest ways of improving obstetrical care and preventing maternal deaths in the future. The Committee's main purpose is to upgrade the maternal care in our state.

In 1969 there were 50,401 live births reported in South Carolina and 26 maternal deaths. In comparison, in 1955, there were 63,520 live births and 66 maternal deaths; and in 1968, there were 49,158 live births and 32 maternal deaths. This presentation will review the maternal deaths in 1969. In 1969 of the 50,401 live births, there were 31,626 white births and 18,775 black births.

Table I lists the 1969 maternal deaths according to race and legitimacy.

TABLE I
Race and Legitimacy

| Race | No. | Married | Single |
|---|---|---|---|
| Black | 15 | 12 | 3 |
| White | 11 | 11 | 0 |
| | — | — | — |
| | 26 | 23 | 3 |

Table II shows the age and parity distribution of the maternal deaths.

Age and Parity

| | |
|---|---|
| Age | 17-43 |
| Average | 30.5 |
| Primi. | 6 |
| Secund. | 3 |
| Multi. | 16 |
| Unknown | 1 |

As the cases were reviewed for 1969, a primary cause of death was assigned to each case. Table III lists the primary cause of the maternal deaths.

TABLE III

Primary Cause of Death

| | |
|---|---|
| Sepsis | 8 |
| Hemorrhage | 5 |
| CVA | 3 |
| Heart Disease | 2 |
| Neoplasm | 2 |
| Hepatic Failure | 2 |
| Asthma | 1 |
| Anesthesia | 1 |
| Renal Failure | 1 |
| Pulmonary Embolus | 1 |
| | 26 |

These deaths may be classified into one of three groups shown in Table IV — Number I, direct obstetrical deaths, that is a death due to complications of pregnancy or the elective treatment of pregnancy; Number II, indirect obstetrical deaths, that is death due to disease pre-existing or developing during pregnancy, and that may be aggravated by pregnancy; Number III, non-related deaths, that is, death in which pregnancy was incidental.

TABLE IV

| | |
|---|---|
| *I — Direct OB Deaths* | |
| Hemorrhage | 5 |
| Infections | 2 |
| Anesthesia | 1 |
| Renal failure 2° abruption | 1 |
| | 9 |
| *II — Indirect Causes* | |
| Pulmonary Embolus | 1 |
| CVA | 3 |
| Heart Disease | 2 |
| Hepatic Failure | 2 |
| Pyclonephritis | 1 |
| | 9 |
| *III — Non-related Causes* | |
| Pneumonia | 5 |
| Neoplasm | 2 |
| Asthma | 1 |
| | 8 |

Eight maternal deaths in 1969 were due to sepsis and infection and they are subdivided in Table V. Sepsis was the leading cause of maternal mortality in 1969 in South Carolina.

TABLE V

Cause of Death Due to Sepsis

| | |
|---|---|
| Pneumonia | 5 |
| Pyelonephritis | 1 |
| Septic Abortion | 1 |
| Puerperal Sepsis | 1 |
| | 8 |

There were five deaths secondary to pneumonia. The first case involved a 39 year old gravida vi admitted to the hospital for bronchial pneumonia who began spontaneous labor while under treatment and delivered. The patient died two days postpartum with pneumonia and septic shock. The second case involved a 29-year-old gravida ii admitted to the hospital for treatment of pneumonia. The patient subsequently had premature labor, delivered and died 36 hours postpartum. An autopsy showed left lower lobe pneumonia and pulmonary edema. The third case was a 26-year-old gravida ii who was treated with antibiotics for upper respiratory infection as an outpatient. Twenty-four hours after beginning treatment, she was admitted with dyspnea, cyanosis, and labor. A Caesarean section was done under local anesthesia for cephalopelvic disproportion, and despite vigorous postoperative treatment, the patient died on the third postpartum day. Cause of death was attributed to pneumonia. The fourth case was a 25-year-old primigravida who had a Caesarean section for cephalopelvic disproportion and postoperatively had the onset of cyanosis thought to be secondary to aspiration pneumonia. The morning after

delivery, the patient's temperature went to 107, and she died. Autopsy showed acute pneumonitis and pulmonary edema without evidence of aspiration. The fifth case is a 36-year-old gravida vi who had the onset of chest pain on the second postpartum day and x-ray examination showed infiltrate compatible with amniotic fluid embolus. The patient was treated with Cortisone, Digitalis, and Atropine but died the third day postpartum. An autopsy showed acute bilateral lobar pneumonia.

The next case of death due to sepsis was a 22-year-old gravida vi who was admitted at term to the hospital for treatment of pyelonephritis. The patient died approximately two hours postpartum despite vigorous treatment for septic shock and hemorrhage. Death was thought to be secondary to pyelonephritis with septic shock leading to a coagulation defect.

There was one death secondary to puerperal sepsis in a 43-year-old gravida vii delivered at home by a midwife. The patient was admitted to the hospital on the second postpartum day with peritonitis and endometritis. The patient died 14 days postpartum and an autopsy showed generalized peritonitis.

The final death due to sepsis was a 25-year-old gravida iv admitted to the hospital in shock. An emergency laparotomy was done for a suspected ectopic pregnancy. The laparotomy was negative for ectopic pregnancy but an incomplete septic abortion was found. A D&C was done, but the patient died of septic shock.

Five maternal deaths in 1969 were due to hemorrhage as subdivided in Table VI.

TABLE VI

Cause of Death Due to Hemorrhage

| | |
|---|---|
| Abruptio Placenta | 2 |
| Criminal Abortion | 1 |
| Ruptured Uterus | 1 |
| Trauma | 1 |
| | 5 |

Two of the deaths from blood loss were secondary to abruptio placenta. The first case of abruptio placenta was in a 32-year-old gravida vi who consulted her physician at term for vaginal bleeding and was sent home. An attendant noted the patient to become unresponsive and delivered a 9 lb. breech stillborn. The patient was taken to the Emergency Room bleeding heavily and despite therapy, the patient expired shortly after reaching the Emergency Room. Cause of death was probably abruption of the placenta, but ruptured uterus could not be excluded. No autopsy was performed. The second case was a 34-year-old gravida x who was admitted to the hospital with vaginal bleeding and a blood pressure of 40/0. Immediate Caesarean section was done with delivery of a stillborn infant. Later a subtotal hysterectomy was done for uncontrolled hemorrhage. The patient had multiple postoperative complications including reoperation for a pelvic hematoma, sepsis, rising BUN, suspected pulmonary embolus, and finally died approximately one month postpartum.

There was one case of death due to hemorrhage probably secondary to criminal abortion in a 42-year-old of unknown parity. The patient was dead on arrival at the Emergency Room and had a red rubber catheter in the vagina. An autopsy was surprising in that a placental separation with hemorrhage of an extra uterine pregnancy was noted.

A ruptured uterus was suspected as the primary cause of death in a 29-year-old gravida vi who had a history of Caesarean section for placenta previa with her first child. The patient was treated for incisional pain during the early part of her pregnancy and at approximately 28-30 weeks the patient began complaining of sudden onset of severe abdominal pain. The patient was taken to the Emergency Room and when her doctor arrived, no blood pressure was obtainable and the abdomen was rigid. Despite cutdown and IV fluids, the patient died and the death was attributed to a ruptured uterus.

The last death due to hemorrhage was a 17-year-old primigravida who was approximately 28 weeks pregnant and involved in an auto accident. The patient was taken to the Emergency Room and a physician noted the patient to be in shock and gave emergency treatment to a leg laceration. In spite of suturing the laceration, it would not stop bleeding and

blood drawn at this time would not clot. The patient was treated with fibrinogen and blood but died before she reached the Referral Center. An autopsy revealed abruptio placenta and the fibrinogen level was 10 and the hematocrit was 11. The abruptio placenta was thought to be secondary to the trauma of the automobile accident.

It was surprising that eclampsia was not listed as a primary cause of a single death in South Carolina in 1969. Table VII shows the incidence of toxemia in the maternal death reviewed in 1969.

TABLE VII

| Toxemia of Pregnancy | |
|---|---|
| Eclampsia | 0 |
| Pre-eclampsia | 4 |
| HVD | 3 |
| Unknown | 6 |
| No Toxemia | 13 |
| | 26 |

There were three deaths due to cerebral vascular accident. The first case was a 34-year-old gravida v who during labor, just prior to delivery, complained of a severe headache. The patient became comatose after delivery and died shortly thereafter. Death was thought to be secondary to an intercerbral hemorrhage. The second death due to CVA was a 42-year-old gravida ix whose only significant past history was a blood pressure elevation to 174/114 twelve years before according to her old medical records. Apparently the patient was seven months pregnant and came to the Emergency Room complaining of a bad feeling and was sent home by her physician who would not come to check her. The patient returned by ambulance to the Emergeney Room a second time with gasping respirations and died shortly after arriving. Another physician pronounced the patient dead and felt the cause of death was probably cerebral vascular accident. No autopsy was done. The final death secondary to cerebral vaseular accident was a 20-year-old primigravida who was referred to the Medical University Hospital for possible brain tumor after having severe nausea, vomiting, and seizures during her pregnancy. The patient was found to have acute porphyria and treated with a good response. Approximately two weeks after admission the patient suddenly became comatose and died shortly thereafter. Autopsy revealed cerebral hemorrhage as a complication of acute porphyria.

There were two maternal deaths due to heart disease in 1969. The first case was a 20-year-old primigravida who had rheumatic heart disease with mitral insufficiency and atrial fibrillation. The patient died in pulmonary edema despite vigorous treatment approximately two and a half weeks after having an uncomplicated labor and delivery. The second case is a 40-year-old gravida ii whose past medical history included rheumatoid arthritis and myocarditis. Although the exact status of the patient's heart disease during pregnancy was unclear, the patient was on daily digitalis and hospitalized at least once during her pregnancy for anemia and pneumonia. The patient apparently died at home, undelivered and the impression was death was secondary to heart disease, although no autopsy was obtained.

There were two deaths caused by neoplasm, or malignancy, in 1969. The first death was due to carcinoma of the breast with metastases to the liver in a 34-year-old patient who died in coma with jaundice approximately four weeks postpartum. The second case is a 39-year-old gravida x whose liver biopsy showed poorly differentiated carcinoma, type uncertain but suggestive of primary adrenal, pancreas or ovary. The patient died on the third day postpartum and autopsy was refused and death was attributed to carcinomatosis of unknown origin.

There were two cases of hepatic failure causing maternal deaths in 1969. The first case is a 33-year-old gravida iv who was admitted to the hospital for pneumonitis and treated with IV tetracycline. The patient died ten days later in hepatic coma and autopsy showed toxic hepatitis. Remember tetracycline is contraindicated in pregnancy for it not only causes harmful effects on the unborn infant, but also has been associated with severe hepatic damage in pregnancy. It is especially dangerous when given in high doses parenter-

ally and deaths have been reported. The second case of hepatic failure is a 28-year-old gravida iii who was admitted to the hospital with jaundice and confusion and thought to have hepatitis. The patient died the second day postpartum and autopsy showed acute yellow atrophy of the liver.

There was one maternal death due to asthma in a 27-year-old gravida iii who apparently had vigorous treatment for her asthma during her pregnancy. The patient arrived DOA at the Emergency Room approximately four months pregnant and death was attributed to acute asthmatic attack.

One anesthesia death was noted in 1969 and occurred in a 22-year-old primigravida who had a D&C for incomplete abortion. The patient developed an anoxic encephalopathy secondary to laryngeal spasm postoperatively. The patient never regained consciousness and finally died of bronchial pneumonia and anoxic encephalopathy.

One maternal death was secondary to renal failure in a 17-year-old primigravida who was admitted to the hospital with heavy vaginal bleeding and diagnosed as abrupto placenta. During the first 24 hours after admission, the patient received no blood and only 1000 cc of IV fluids. After 24 hours in the hospital, no fetal heart tones were heard, and finally a stillborn infant was delivered. Over the next several days, the urine output was less than 100 cc per day and approximately one week postpartum the BUN was noted to be 90. Peritoneal dialysis was begun but the patient died on the 42nd day postpartum. Cause of death was attributed to renal failure secondary to abruptio placenta.

The last maternal death was a pulmonary embolus in a 37-year-old gravida vii who died suddenly at home ten days postpartum and eight days post tubal ligation.

Table VIII depicts the outcome of each pregnancy that was a maternal death in 1969.

Table IX depicts the time of death relative to labor and maternal deaths in 1969.

TABLE VIII

| Outcome of Pregnancy | |
|---|---|
| Abortions | 3 |
| No Delivery | 6 |
| Delivery | |
| Live Births | 7 |
| Stillbirths | 10 |
| | 26 |

TABLE IX

| Time of Death Relative to Labor | |
|---|---|
| Antepartum | 4 |
| Intrapartum | 2 |
| Postpartum | 17 |
| Aborted | 3 |

Table X depicts prenatal care received by the maternal deaths reviewed in 1969.

TABLE X

| Prenatal Care | |
|---|---|
| *Visits* | |
| None | 3 |
| 1-2 | 3 |
| 3-5 | 4 |
| Adequate | 12 |
| Unknown | 4 |

Table XI shows the personnel attending the deliveries of maternal deaths in 1969. Of the 17 patients delivered, 14 were delivered by an M. D. and two were delivered by a midwife.

TABLE XI

| Attending of Those Delivered | |
|---|---|
| Medical Doctor | 14 |
| Midwife | 2 |
| None | 1 |
| Not Delivered | 6 |
| Abortion | 3 |
| | 26 |

Table XII shows the maternal deaths by counties in 1969. It should be noted that four of the six maternal deaths in Charleston County were referred from other counties.

TABLE XII

| | |
|---|---|
| Charleston | 6 |
| Greenville | 4 |
| Dillon | 2 |
| Marion | 2 |
| Spartanburg | 2 |
| Lee | 1 |
| Colleton | 1 |
| Chesterfield | 1 |
| Anderson | 1 |

| | |
|---|---|
| Georgetown | 1 |
| Sumter | 1 |
| Darlington | 1 |
| Dorchester | 1 |
| Bamberg | 1 |
| Orangeburg | 1 |
| | — |
| | 26 |

It is to be noted that 11 of the 26 maternal deaths had autopsies done. Every maternal death should have an autopsy done, especially if there is any question about the cause of death. This is very important in helping us increase our knowledge of obstetrics and improve our care to the obstetrical patient.

Each maternal death in 1969 was categorized as preventable and non-preventable. The term preventable does not necessarily mean neglect on the part of the attending physician, although this may be present, but the term preventable is also used in the sense that under ideal conditions, adequate facilities, trained assistance, and with consultation available, better results would probably be obtained. In 1969, the Committee thought ten of the 26 maternal deaths were preventable and 16 non-preventable.

It should be obvious from the report of maternal deaths from 1969 that certain deaths in South Carolina are preventable, and we, as physicians, should take steps to prevent these deaths from occurring. The following factors have been found responsible for decreasing maternal deaths and improving obstetrical care:

(1) Better trained physicians and nurses
(2) Better prenatal care
(3) Availability of blood
(4) Better anesthesia
(5) Availability of antibiotics
(6) Safer obstetrical surgery
(7) Hospital care in the place of home delivery
(8) Education of the public
(9) Family Planning
(10) Active Maternal Health Committee

In 1969, the maternal death rate in South Carolina was approximately 5.2 deaths per 10,000 live births. The national average for 1967 was 2.8 deaths per 10,000 live births, and South Carolina in 1967 ranked #45 in comparison with other states in maternal deaths. South Carolina must improve its care of the pregnant female. Every pregnant patient should have prenatal care, be delivered in a hospital, and be offered family planning techniques postpartum. Every physician who does obstetrics should have available, not only an adequate hospital, including well-staffed and well-equipped delivery and operating rooms, but also consultation available from the major specialties, especially obstetrics.

Perhaps these recommendations are unrealistic for South Carolina. I think you will all agree that these things are vitally needed. I think the public in the future will demand these changes and I think as physicians we should strive to be leaders in improving obstetrical care in our state. I hope I will see the day in South Carolina when our maternal death rate has reached an almost irreducible minimum.

# BOWEL HEMORRHAGE WITH "THUMB PRINTING"

SAMUEL K. MORGAN, M.D.*
ANN M. GROOMS, M.D.**
E. Q. SEYMOUR, M.D.***

**Clinical History**

This 11 year old white boy was diagnosed as having acute lymphoblastic leukemia in September, 1967. He was maintained in sustained remission on cyclic chemotherapy until December, 1970. Central nervous system leukemia accompanied terminal hematological relapse. Approximately one week prior to death, the patient developed Staph aureus septicemia, jaundice, and a large palpable mass, also visible on inspection, in the right lower quadrant. A roentgenogram of the abdomen was obtained (Figure).

**Denouement and Discussion**

Radiologic findings on the plain abdominal film demonstrated prominent mucosal folds in the cecal area. This most frequently is the result of submucosal hemorrhage which produces a "thumb-print" sign. At autopsy, there was massive intramural cecal hemorrhage which ruptured and dissected into the retroperitoneal space. This was associated with extensive intraluminal bleeding. The sections of cecum from this area of hemorrhage showed virtually total necrosis of the cecal wall with myriads of bacteria. Circulation to this part of the bowel was impaired by the intramural clot and this was followed by secondary infection and necrosis. Hemorrhagic necrotizing enteropathy is a well known complication of leukemia and may be associated with "thumb-printing" on abdominal roentgenograms.



**Supine roentgenogram of the abdomen.**

*Associate Professor of Pediatrics
**Fellow, Pediatric Hematology
***Associate Professor Radiology
Departments of Pediatrics and Radiology, Medical University of South Carolina, 80 Barre Street, Charleston, South Carolina 29401

# ELECTROMYOGRAPHY AS A DIAGNOSTIC AID IN LUMBO-SACRAL NERVE ROOT IRRITATION*

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## I. BACKGROUND

Electromyography (EMG) is both useful and desirable as a method of diagnosis for certain orthopaedic conditions. This test is useful in obtaining further information about suspected lumbar nerve root compression syndromes. This lesion is the most common orthopaedic problem for which electromyography is used.[1] The frequency of use of this diagnostic procedure varies according to the medical environment, the referral services available, and whether or not the physician is using the procedure for diagnostic or screening purposes. Prior successful or unsuccessful experience with electromyography influences the physician as to his confidence in the technique.

Numerous studies do emphasize the value of electromyography in management of intervertebral disc disease in the low back. The diagnostic findings have been correlated with myelography and with the observations made at the time of the back operation.[2,3,4,5,6,7,8] Table I is a summary of the correlative findings of several larger studies.

Our experience has shown that electromyography is useful in assessing lumbar intervertebral dise conditions in several ways:

(1) To determine if new and/or old nerve root irritation exists.
(2) To verify subtle clinical complaints.
(3) To aid in selecting patients for myelography.
(4) To assist in differentiating nerve root compression from acute infectious polyneuritis, mononeuropathy, muscular dystrophy, and degenerative disorders and atrophy of disuse associated with peripheral nerve lesions.

The test is useful when myelography is desirable, but for one of many reasons cannot be done. Such as:

(1) Patient refusal because of fear or anxiety.
(2) Suspected low back infection
(3) Iodide allergy
(4) Suspected arachnoiditis
(5) Failed myelogram with extradural injection

## II. CLINICAL MATERIAL

Only patients that have actually been operated upon are included in this study. Eighty patients (thirty-eight females and forty-two males) with 91 nerve root explorations have been reviewed. The symptoms were present for a minimum of six weeks prior to hospitalization. Eight patients had under-

*Presented at North-South Carolina Combined Orthopedic Meeting, Hilton Head Island, South Carolina, September 1970.

**Partial support by grant from Orthopaedic Research and Education Foundation Duke University and Affiliated Institutions Orthopaedic Training Program, Currently The Miller Clinic, Incorporated, Charlotte, North Carolina.

TABLE I

| | EMG | MYELOGRAM |
|---|---|---|
| 1. Shea, Woods, and Werden 1950 | 90% (60 pts) | 87.3% (55 pts) |
| 2. Shea and Woods 1956 | 91.8% (354 pts) | 79.8% (287 pts) |
| 3. Crue, Pudenz, and Shelden 1957 | 73% (136 pts) | 79% (136 pts) |
| 4. Marinacci 1956 | 86.4% (722 pts) | 77.6% (722 pts) |
| 5. Kambin etal. 1962 | 62% (40 pts) | 80% (40 pts) |
| 6. Knuttson 1961 | 77.6% (206 pts) | 76.1% (206 pts) |
| 7. Brady etal. 1969 | 92.3% (131 pts) | 72.2% (132 pts) |
| 8. Present Study | 87.1% (80 pts) | 89.0% (80 pts) |

gone surgery previously. Seven patients had multiple level involvement, and four had bilateral root involvement clinically. The electromyogram was done at the time the patients were admitted and prior to myelography. All involved patients underwent operations for a suspected lumbo-sacral nerve root compression syndrome. The findings at the time of surgery have been correlated and included. In essentially all instances, the electromyographic test was done by the first two authors but under the supervision of a member of the Senior Orthopaedic Staff. Complete cooperation, however, existed among other services such as neurosurgery, physiatry, neurology, and physical therapy. This consistency of test performance and interpretation is important as a split responsibility confuses the important factors of judgment and interpretation and amplifies individual differences in technique. Other reports, except for that of Kambin et al.,[4] have not had the same continuity of personal follow-up.

Operation was done one to three days after electromyography and/or myelography. Myelography was used in order to diagnose the level and site of the lesion. Surgery was usually anticipated prior to myelography. If the myelogram was positive, the back operation was done.

Using a standard electromyograph and a double co-axial needle electrode in a quiet air conditioned room, both (preferably) lower extremities of the supine patient were examined. The muscles tested routinely were:

(1) Quadriceps
(2) Anterior tibial and extensor hallucis longus
(3) Peroneals
(4) Medial gastrocnemius
(5) Lateral gastrocnemius

Other muscle groups, such as adductors, hamstrings, paraspinal, interossei, are tested if the diagnosis is equivocal or if unusual level nerve root compression is suspected. The entire test requires five to ten minutes.

The most frequent and primary abnormalities found are polyphasic action potentials. Contrary to certain other studies these abnormal motor unit potentials are our *most reliable* index of disturbance in the integrity of the motor units. Polyphasics may comprise up to 12% of the action potentials in normal muscle.

Polyphasics are asynchronously firing or abnormally innervated motor unit contractions (Figure 1).

These asynchronous potentials occur during degeneration or regeneration of peripheral nerve fibers and consist of wave potentials with four or more phases, a phase being a

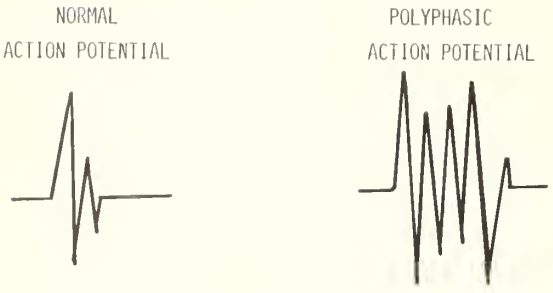



FIGURE 1

single positive-negative deflection which returns to the baseline. Polyphasics may include small polyphasic motor unit potentials (nascent potentials) which are the first definite signs of regeneration, or giant polyphasic action potentials indicating late regenerative phenomenae. In an attempt to quantitate or standardize the percentage of polyphasicity, the nomenclature as outlined in Table II has evolved. Care should be taken (1) *not to overread* the TMG and (2) to interpret the EMG as either positive or negative.

TABLE II

| | |
|---|---|
| None | 0%-5% |
| Occasional | 5%-10% |
| Few | 10%-20% |
| Frequent | 20%-30% |
| Many | 30%-50% |

Other rough equivalents no longer used as terms are "scattered", "diffuse" and "some." The polyphasics are best reported in percentages.

Fibrillation potentials are of paramount importance. Their presence verifies degenerated muscle. In addition to fibrillation of denervation, weak recruitment phenomenae, abnormal insertional potentials and positive waves can be found and are supplementary indicative signs.

Potential causes of confusion in needle electromyography as applied to nerve root compression include:

(1) Myotomal innervation variation or anomalous nerve roots.
(2) Electromyographers interpretation.
(3) Multiple or unique root involvement due to disc protrusion direction and/or several level disc involvement.
(4) Failure to separate HNP from spur encroachment, spondylosis, or root sleeve fibrosis.

Long term clinical follow-up either for disc recurrence or persistent EMG changes have not been carried out in this study. Giant polyphasics are indicative of old regenerated axons causing overlapping innervation of motor units and are seen in most postoperative cases. These persistent postoperative EMG changes were found twelve months after surgery in forty-two of one hundred eighty-five patients in one study.[5] New polyphasics remain a reliable indication of root irritation.

## III. RESULTS

A group of muscles commonly innervated from a single nerve root is called a myotome. The graphs opposite (Table III) summarize the electromyographic myotomal distribution or primary muscle involvement in the eighty patients explored and found to have L-4, L-5, or S-1 nerve root compression. The results coincide with our previous and subsequent patient experience. The usual pattern is for the quadriceps to show polyphasic action potential in L-4 nerve root compressions; the anterior tibial and often the medial gastroc and peroneals in L-5 nerve root compression. Though the peroneals were positive in L-5 and S-1 nerve root involvement, they alone were often positive in S-1 root involvement.

Table IV analyzes the electromyographic and myelographic results of the eighty cases with ninety-one root explorations. The positive and negative correlations generally agree with those previously reported. There were no mutual false negative EMG's and myelograms. Two of the false positives were mutual. In eight cases EMG alone was correctly positive.

TABLE IV

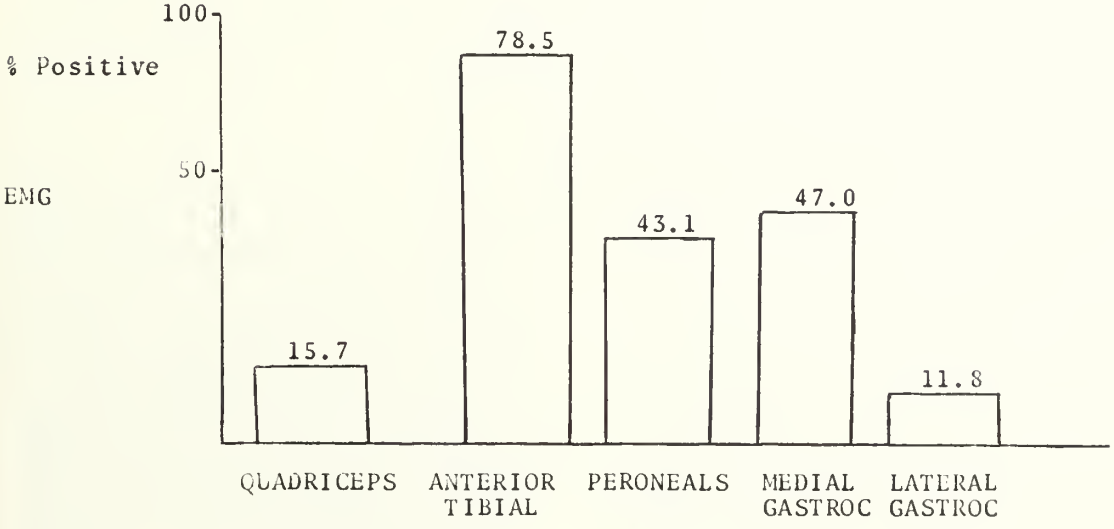
| | *Positive Surgery* | *Negative Surgery* |
|---|---|---|
| + EMG | 74 | 3 |
| — EMG | 11 | 3 |
| + Myelogram | 73 | 2 |
| — Myelogram | 9 | 4 |

Clinical neurological involvement or positive straight leg raising or femoral stretch test was

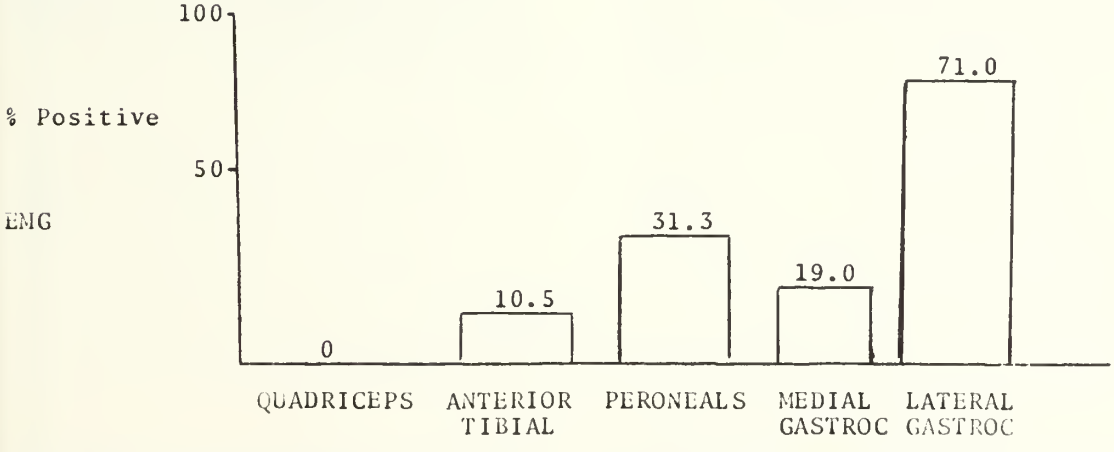
TABLE III

L 3-4 HNP with L-4 root compression: positive quad involvement (3 cases)

L 4-5 HNP with L-5 root compression (41 cases)




L 5-S 1 HNP with S-1 root compression (30 cases)




present in forty-four of forty-six L-4, 5 disc protrusions and in twenty of thirty-five L-5, S-1 disc protrusions. Of these sixty-four patients with neurologic change or positive nerve stretch test involvement sixty-two had positive electromyography and sixty positive myelography. Left sided involvement was present in forty-five patients, right sided in thirty-five patients.

## IV. DISCUSSION

Marinacci[6] has stated that polyphasic motor units without the presence of fibrillation in the distribution of the spinal segment do not indicate true root lesion and may occur in numerous metabolic and infectious problems. This statement is correct but *in the presence* of suspected lumbar nerve root compression polyphasic action potentials have proved to be the most reliable index of disturbance of the neuromotor unit.

Although these eighty cases represent the single reported study from Duke and/or Duke affiliated institutions, the principle of using polyphasies predominantly as a diagnostic indication of nerve root irritation is being and has been used in over two thousand patients with results essentially as described in this paper. The EMG as described, performed and interpreted meets the busy orthopaedists requirements of a simple, brief, reliable and valuable diagnostic aid in the lumbar disc syndrome.

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# VIABLE ORGAN PROCUREMENT*

FRANK B. FREEDMAN, Ph.D.**

## I. INTRODUCTION

Work relating to organ transplantation is proceeding along three lines of investigation: surgical techniques, procurement of viable organs and the rejection phenomenon. The primary emphasis of this paper will deal with the various problems associated with viable organ procurement and, in particular, organ preservation techniques.

A large number of organ storage variables have been assessed.[1-10,12-58] These include: temperature, environmental pressure, environmental gaseous composition, vascular medium, surgical preparation and pretreatment, perfusion flow profiles, perfusion flow rates, storage duration and storage modes. Among the various modes of storage include schemes ranging from the very elementary to the very complex. An organ placed in an ice slurry or a pressurized vessel is an example of the former. The various extracorporeal storage techniques represent a somewhat more complex approach to this problem. Ex-vivo and cadaver maintenance schemes represent perhaps the most complex attempts of storing organs.

Vital organs have been stored in buckets, plastic bags, saline soaked sponges, rubber gloves, pressure vessels and in conjunction with living organisms. The primary emphasis has been directed toward renal preservation.[8-8,13-40,50,51,53,56,57] To a lesser degree, attempts at storing the heart, lungs, liver and intestine have also been reported. Two recent publications review the current state of the art.[1,2]

## II. TECHNIQUES OF ORGAN PRESERVATION

### 1. In-vitro

In-vitro storage is the technique most often employed in organ preservation studies.[3,9,13-44,46-53,55,58] Perfusion (either continuous or intermittent) is being utilized in more recent studies; and, low flow rates employed. Hypothermia, when included in the experimental plan, is achieved by incorporating a heat exchanger in to the system or by housing the entire system in a refrigerator. Oxygen, carbon dioxide, and other gas levels in solution are maintained using membrane oxygenators.

Hyperbaria is also employed in many studies in an attempt to extend the range of storage duration. Commercially available or custom built pressure vessels are used for these studies. More often than not, physiological variables (weight gain, flow rates, perfusion pressures, etc.) rather than biochemical variables in combination with the former are used to assess organ viability after storage is terminated. Rarely are on-line biochemical organ assessments utilized to assess the quality organ storage. In some schemes, such assessments are not physically possible. Typically, "successful" organ preservation durations range between 8 to 72 hours utilizing extracorporeal methods.

### 2. Ex-vivo Perfusion

Ex-vivo perfusion employs a "normal" organism to perfuse, and hence maintain, the stored organ outside the host's body.[4,5] This type of storage provides the stored organ with an almost "normal" physiological environment. The organ is usually housed in a relatively simple container; and, perfusion is achieved through vascular connections made at appropriate cannulation sites.

Perhaps the most successful organ storage scheme was achieved using ex-vivo perfusion.[4]

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*This paper was read at the 1970 meeting of the Indiana Chapter of the American College of Surgeons. Reprinted with the permission of the author and publisher from The Journal of the Indiana State Medical Association through an arrangement with the State Medical Journal Group.

**Applied Science Division of Litton Industries
13010 County Road 6
Minneapolis, Minnesota 55427

A donor kidney, mounted in a chamber and positioned on the forearm of an anephretic male was capable of providing good renal function for approximately 27 days. Previously the patient was being maintained by dialysis; and rejection drugs were employed during the study. A ureter cannula enabled urine flow. The host benefitted from the functioning stored organ.

Another example of this technique employed short-term perfusion. (4-6 hours) of the heart by cannulation to the cartoid artery and jugular vein.[5] A number of other organs have been stored in this manner, each employing an animal to provide both the perfusion and perfusion medium.

3. Intermediate Host

Another type of organ storage employs the principal of an intermediate host.[5,6,57] An organ is implanted into an otherwise intact animal; and, some immulogical suppressive technique employed to maintain the organ. Typically, a heterologous host is employed. In one study, primate kidneys function in humans for up to 7 months; and, the host relied on this kidney for renal function.[57]

In another study, total body lethal radiation was employed to suppress the rejection mechanism. This resulted in the death of the host organism within approximately ten days; however, the latter provided a good environment for the stored organ. This technique was termed xenobanking, and stored Rhesus monkey kidneys in baboons.[6]

4. Whole Body Storage

Circulatory support by mechanical cardiac massage, artificial respiration, and various other physical devices have been employed to maintain the respiration and circulation of cadavers for up to ten days.[59] A mechanical massage system has maintained the circulation of dogs with induced ventricular fibrillation[8] for up to 24 hours. Other approaches to maintain or support the circulation employ whole body pressurization[11] (alternate compression and decompression) and counterpulsation.[12] Although still in the experimental stages, these methods can in theory be applied to whole body storage.

5. Freezing

Organ freezing is currently being examined due to past success with blood and skin preservation coupled with the apparent simplicity of any resulting storage system.[10,54,58,59] Various temperature patterns, perfusate additives and techniques for achieving low temperatures have been investigated. The results are generally poor, currently offering little possibility for long-term storage.

6. Autoperfusion

"Autoperfusion" involves the reconstruction of an organ—organ system outside the body.[48] The two basic components are the heart and the lungs. This two organ system was apparently successful for approximately 17 hours. It is interesting to speculate what effect adding other vital organs (kidney, liver, intestine) would have.

## III. DISCUSSION (ORGAN STORAGE TECHNIQUES)

Complex in-vitro preservation techniques have not significantly increased organ storage durations relative to the most elementary schemes (organ in ice slurry or pressure vessel). Although this approach may provide techniques for very short term storage( a few days at the most), other approaches appear more promising for long term storage. Long term storage will probably be defined somewhere near 21 days, the duration of blood storage.[59]

The success with the limited number of reported ex-vivo and intermediate host studies seem to indicate that physiological conditions provide one suitable environment for storing organs. This conclusion should naturally surprise no one. The primary problems resulting from application of this approach are logistical if animals are used and ethical if humans are used as storage systems. Long term problems associated with continued use of rejection drugs are currently being documented by several research groups.[59]

Intermediate host techniques for long term organ storage offers a good trade-off between logistical, medical and ethical problems. Although this concept is not currently very

popular, it should be eonsidered strongly for its potential in providing viable organs.

Whole body storage, using mechanical support to maintain respiration and the circulation, offers another sound technique for organ preservation. Storage for up to ten days or more is possible, however, utilization of this teehnique requires a more aeeeptable eriterion of death (or life). If an adequate definition were available, then, whole body storage would be a satisfaetory teehnique for storing viable organs.

The two other teehniques of organ storage, autoperfusion and freezing, do not presently offer mueh possibility for long term storage. No other teehniques were reported in the literature examined.

## IV. VIABLE ORGAN PROCUREMENT

The number of researchers and amount of funding being devoted to this effort would indieate a potential wide seale applieation of organ storage (as it relates to organ transplantation). There are only several dozen institutions in this eountry where transplantation might be done routinely. Ideally the organ storage eenters would be elosely located to the site of utilization.

The eomplex flow of materials and personnel involved in viable organ proeurement has yet to be rigorously assessed from an economie, soeial and teehnieal point of view. For example, a critical aeeident patient might be a potential organ donor. His family has to be contaeted, the situation explained, and a deeision rendered. They might in turn request to seek out their family physieian or elergy for advice before making a deeision. The decision would naturally rest upon whether the victim dies. Our presont definition of death is laeking and lawyers and physieians are looking toward each other for the solution.

This uneertainty might place the family or attending physician in a dilemma. A pronouncement of death might be disputed by another physieian, say a neurologist.

If permission were obtained to enable organ removal (or harvesting), rapid transport of the surgieal team to the vietim or vice versa is neeessary. The smaller hospitals are usually not equipped to faeilitate sueh a removal. Surgieal removal would probably be done in the organ storage center; and, speeially trained personnel and equipment would be required to retrieve the donor organism.

Organ removal tissue typing and organ assessment precede the deeision to store, transplant, or discard the various vital organs. Tissue typing presently requires sending blood samples to Los Angeles since the eight or so regional tissue typing eenters do not meet the standards by Dr. Terasaki (Los Angeles).

If transplantation is indieated, then the eandidate's health and travel time to the transplantation eenter beeomes important factors. A signifieant delay between organ removal and transplantation is undesirable, the delay being limited by the maximum duration of organ storage. The renal transplant candidate ean presently be maintained in good health at the transplant center if plaeed on artificial dialysis.

Reeord keeping, surgical and teehnieal personnel, hospital space, supporting equipment and facilities and human factors must also be eonsidered. No one has seriously questioned whether we ean meet this potential demand, and still attend to the existing load on the medieal eare system!

Approximately six regional (and independent) organ proeurement centers are eurrently being funded. Valuable information relating to the feasibility of providing wide-scale viable organ proeurement, and hence wide-seale transplantation, should be available in the near future.

## V. A REVIEW OF THE "STATE OF THE ART"

Carrell and Lindberg examined the possibility of in-vitro organ storage over thirty years ago.[58] Within the last ten years, a renewed interest in this area resulted from the "apparent" break-throughs in organ transplantation. At this point in time, it is worthwhile examining why, after saerifieing thousands of animals and expenditures of hundreds of thousands of man hours and tens of millions of dollars, the present techniques of organ preservation are either of limited value, lacking in seientifie merit, or laeking

in teehnieal feasibility.

In an area of study as broad as organ preservation, three elements must share the responsibility for progress (or laek of progress): the individual researeher, the scientific community and the funding agencies. Organ preservation has been researched primarily by the academic surgeon. A team effort, employing say a surgeon, physiologist, biochemist and a biologieal engineer, is the exeeption rather than the rule.

Sinee organ preservation eneompasses areas of knowledge spanning many traditional disciplines of basic medieal and clinical scienees, exclusion of the appropriate diseiplines is self-defeating. Perhaps even more imporatnt in explaining the present slow rate of progress is the failure of many researehers to understand or utilize the "scientifie method."

The scientifie method deseribes the concept of stating a hypothesis and proving (or disproving) it with appropriate experimentation. The experimental data in turn suggests a modification of the hypothesis which may involve an extension or an alteration of the original hypothesis. Each hypothesis suggests goal oriented research; and, ideally, the reiterative proeess of hypothesis-data-hypothesis-data-etc. continues until the original objectives are fulfilled.

Formulation of the hypothesis and establishment of the appropriate experimentation are the two most important features of seientific discovery. Both require the ability to reeognize and understand basic mechanisms and eommon properties. Training the clinical researcher to observe empirical trends and/or patterns does not automatically establish his ability in scientifie discovery.

In lieu of researeh direeted toward answering specific questions (posed by the hypothesis), typically, the "shot gun" experimental approach is employed. The shot gun approach characterizes experiments in which, for example, several dozen animals or more are utilized—five subjected to condition one, six to condition two and so forth, and finally, five animals serve as controls.

The several dozen animals utilized in the manner described previously provide very little, if any at all, new seientific information. To narrow the scope of the experimentation, say by examining the effect of one experimental parameter, might provide definitive information on one speeific question. By repeating this process, all questions can usually be resolved; however, a mueh greater expenditure of resources may be required. Utilization of the shot gun approaeh rather than the seientifie method is too often the ease with people from all areas of sieenee and engineering.

The medieal seientific community as a whole must share some of the responsibility for the present state of organ preservation for two reasons. First of all, it is entirely possible that suffieient information suggesting the feasibility of storing organs (in some modes) is lacking. If a living organism eannot be maintained safely by a heart-lung machine for more than several hours, how can we expect to perfuse an organ for days? If we do not fully understand the information contained in a tissue preparative slide, then, how can we expect to employ histology as a means of assessing long-term effects of organ storage. If we do not have a good understanding of cellular metabolism, how ean we expect that inhibition of metabolism to prolong storage durations will not result in cellular damage.

These are but a few examples of gaps of knowledge missing but necessary to ensure the goal of suceessful organ preservation. Organ storage is not the only area of investigation where such information is lacking.

The scientifie community has never supported the concept of centralized or directed research, although they readily embrace centralized funding agencies. For major problems having high priority, centralized research should be employed more often since it is apparent that our resources are finite. The space effort by NASA is a good example of centralized research with specific goals, subgoals and information requested by one agency. If any area of major researeh is deemed worthwhile, (e.g., established as a national goal), then all interested individuals and groups should determine the long-term



## CALORIES / 1 Cup Prepared Soup*

| | | | |
|---|---|---|---|
| Beef Broth | 25 | Vegetable | 77 |
| Consomme | 33 | Tomato | 79 |
| Chicken with Rice | 49 | Cream of Asparagus | 80 |
| Chicken Gumbo | 55 | Cream of Chicken | 87 |
| Chicken Noodle | 62 | Beef | 99 |
| Chicken Vegetable | 68 | Cream of Potato | 105 |
| Turkey Noodle | 72 | Cream of Mushroom | 131 |
| Vegetable Beef | 75 | Green Pea | 131 |

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Searle offers a family of O.C. products that covers the range of women's needs to help you provide the right pill for the right woman at the right time.

*References* **1.** Editorial. Oral Contraceptives. Which Pill for Which Patient? Patient Care 3:90-115 (Feb.) 1969 and 4:135-145 (June 15) 1970. **2.** Greenblatt, R. B. Progestational Agents in Clinical Practice. Med. Sci. *18*:37-49 (May) 1967. **3.** Kistner, R. W. Gynecology: Principles and Practice, ed. 2, Chicago, Year Book Medical Publishers, 1971. **4.** Kistner, R. W. The Pill: Facts and Fallacies About Today's Oral Contraceptives, New York, Delacorte Press, 1968. **5.** Nelson, J. H. Clinical Evaluation of Side Effects of Current Oral Contraceptives. J. Reprod. Med. 6:50-55 (Feb.) 1971. **6.** Orr, G. W. Oral Progestational Agents: Therapy and Complications. S. Dakota J. Med. *22*:11-17 (Jan.) 1969.

## the Ovulen phase

Most women* with a **balanced hormone profile an normal menses** do best on a middle-of-the-road pi that is neither estrogen dominant nor strongly progestogen dominant.

(*Typical clues—normal body build and breasts, feminine appearance, healthy skin and hair. Vagina cytology slide—balanced "pink and blue.")

Some women having problems on other O.C.s might do well on Ovulen.

Ovulen has a distinctive hormonal balance that combines moderate estrogenic activity with a slig progestogen dominance. It has an excellent recor of patient acceptance.

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Each white tablet contains: ethynodiol diacetate 1 mg./mestranol 0.1 mg.

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For brief summary of prescribing information, see following page.



## the Demulen phase

Many women* who secrete **more estrogen** than most do well on a pill with lower estrogen activity and an increased progestogen overbalance.

(*Typical clues—shorter, plumper, full-breasted, with glowing skin and no wrinkles. Vaginal cytology slide "pink.")

Some women with special conditions that may be aggravated by higher estrogen-activity products may do better on this ratio.

Demulen combines minimal estrogenic activity with a moderate ratio of progestogen overbalance. It is particularly well suited to the young when low-dose (activity) is preferred. Demulen offers little risk of the most potent progestogen side effects; early breakthrough bleeding is often transient.

# Demulen®

Each white tablet contains: ethynodiol diacetate 1 mg / ethinyl estradiol 50 mcg
Each pink tablet in Ovulen-28® and Demulen®-28 is a placebo, containing no active ingredients.
Both Ovulen and Demulen are available in 21- and 28-pill schedules.

## the Enovid-E phase

Some women* who secrete **less estrogen** than most do best on a pill with a moderate estrogen overbalance.

(*Typical clues—oily complexion, acne, hirsutism, masculinity, flat chest. Vaginal cytology slide—"blue.")

Patients with estrogen deficiency may show:

premenopausal syndrome
early-cycle bleeding
scanty menses
intermittent depression
increased appetite
steady weight gain
vaginal candidiasis

Enovid-E not only provides increased estrogenic activity with low progestogen activity, but also contains the only progestogen that is not antiestrogenic. Therefore it offers less risk of high-dose progestogen side effects.

# Enovid-E®

Each tablet contains: norethynodrel 2.5 mg / mestranol 0.1 mg

Oral contraceptives are complex medications and, after reference to the prescribing information, should be prescribed with discriminating care.

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Each pink tablet in Ovulen-28® and Demulen®-28 is a placebo, containing no active ingredients.

**Actions**—Ovulen and Demulen act to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Ovulen and Demulen depress the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

**Special note**—Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

**Indication**—Ovulen and Demulen are indicated for oral contraception.

**Contraindications**—Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

**Warnings**—The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality conducted in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis, pulmonary embolism, and cerebral thrombosis and embolism and the use of oral contraceptives. There have been three principal studies in Britain[1-3] leading to this conclusion, and one[4] in this country. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll[3] was about sevenfold, while Sartwell and associates[4] in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as nonusers. The American study also indicated that the risk did not persist after discontinuation of administration and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Ovulen and Demulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

**Precautions**—The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen or Demulen. Therefore, if such tests are abnormal in a patient taking Ovulen or Demulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations preexisting uterine fibromyomas may increase in size. Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Ovulen or Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen or Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen or Demulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen or Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

**Adverse reactions observed in patients receiving oral contraceptives**—A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in $T^3$ uptake values; metyrapone test and pregnanediol determination.

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norethynodrel 2.5 mg./mestranol 0.1 mg.

**Actions**—Enovid-E acts to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Enovid-E depresses the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

**Indication**—Enovid-E is indicated for oral contraception.

The *Special Note, Contraindications, Warnings, Precautions* and *Adverse Reactions* listed above for Ovulen and Demulen are applicable to Enovid-E and should be observed when prescribing Enovid-E.

SEARLE **Enovid-E®**

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*Where "The Pill" Began*

plan or plans of study; periodically review the results; and, suggest changes that would ensure ultimate accomplishment of the proposed research goals. This concept would not stifle the individual effort, in fact, it would enhance the individual effectiveness.

The funding agencies also share the responsibility for progress supported research; and, apparently are satisfied with the rate of progress in this field. Since they do not specify the experimental objectives and conditions, the researcher is free to choose both. What results is a lack of systematic investigation of any variable or combination of organ storage variables. It becomes difficult to pool information from reports of various researchers and very little specific knowledge results. There also tends to be a lack of universal agreement and sometimes even mutual distrust. At the very least agencies should reject those proposals suggesting quick solutions in lieu of long term goals.

In conclusion, organ storage research is being conducted along several lines of approach. Attention is presently being directed toward the more general aspects of viable organ procurement. If procurement systems prove to be both economically and technically feasible, then, sufficient direction should be focused upon improving the quality of organ preservation. The latter must conform with acceptable moral, religious, social and medical standards. If not possible, the research funds and talents should be redirected.

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The author wishes to thank Herman Moench, Vice President for Academic Affairs, and Josephus Collett, Distinguished Professor of Engineering, Rose Polytechnic Institute, for critically reviewing this manuscript.

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**References may be obtained upon request through the office of the Journal of the South Carolina Medical Association, Post Office Box 1461, Columbia, S. C. 29202.**

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## Chiropractor Allowed to Testify in Personal Injury Case

A chiropractor licensed to practice physical therapy by the Board of Chiropractic Examiners was competent to testify as to diagnosis and treatment of an accident victim, a Maryland appellate court ruled. The chiropractor required no further license from the Board of Physical Therapy Examiners.

In a personal injury suit brought by victims of an automobile accident, the chiropractor testified as to his examination and treatment of the victims. He estimated the patients' disabilities and gave his opinion that the accident was the cause of such disabilities. He was the victims' only medical witness.

The opposing party alleged that "chiropractic" was defined by state law as manipulation of the spine. As the chiropractor's treatment did not involve correction of spinal dislocation, he claimed that it was not chiropractic but physical therapy. For this reason, the party contended that the chiropractor's testimony was incompetent and moved that it be stricken.

The trial court granted the motion to strike the testimony. The court held that the law required the chiropractor to be licensed to practice physical therapy by both the Chiropractic Board and the Physical Therapy Board. Because he was not so licensed by the Physical Therapy Board and because his treatment of the accident victims was physical therapy, the trial court ruled that his testimony should be stricken. The court then granted the opposing party's motion for a directed verdict because there was no medical testimony that could be properly submitted to the jury.

On appeal, the court did not agree with the trial court's interpretation of the law. The court said that the words "said Board" in the chiropractice licensing statute referred to the Board of Chiropractic Examiners. It pointed to the fact that the Board of Physical Therapy Examiners was not mentioned in the statute. Because the chiropractor was licensed to practice physical therapy by the Board of Chiropractic Examiners, and because he required no further license, the court ruled his testimony should not have been stricken. The court reversed the judgment of the trial court, remanding the case for a new trial.—*Elliott v. Patterson*, 278 A.2d 431 (Md. Ct. of Special App., June 23, 1971)

# President's Page



Recently, after the Governor had chosen to ignore the opinion of the Higher Education Commission and had come out emphatically for a second medical school as part of the University of South Carolina, I was called by a reporter from a Columbia newspaper asking if the South Carolina Medical Association would take sides in the embroiligo which was sure to develop between those who favor a second medical school and those who think a second medical school would prove to be a catastrophe. I told the inquiring reported that the South Carolina Medical Association would take no side in the argument since the Association is the haven of all the doctors – some of whom are strong proponents of a new school and others who are just as strongly opposed. I do not intend in these pages to be anything more than strictly neutral. At this writing I do not know who will comprise the Legislative Committee which will decide the issue, but there most certainly will be several doctors and they will be men of high character who will be striving to do their best to arrive at an honest decision and one which is best for the state. It behooves every doctor from Oconee to Horry, however, to shout out in unmistakable language that we will tolerate nothing less than first class medical education in South Carolina. The legislature should be reminded that they must assume a great amount of responsibility for the slow progress of the Medical University toward greatness because in years past they have been anything but generous in allocating necessary funds for expansion. Since 1966 when the legislature became more generous, the Medical University has made spectacular progress. If we are to have a second medical school, the legislature must have the guts to supply money enough to support two top notch schools and let neither deteriorate into mediocrity. Let no one think that it won't be costly and let no one be deluded into thinking that we are going to get something for nothing.

J. P. Booker, M. D.
President, South Carolina Medical Association

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The Journal of the South Carolina Medical Association

## 50 YEARS AGO

**April, 1922**

In retrospect the meeting at Rock Hill was acknowledged to have been a great success. Dr. C. F. Williams of Columbia had been elected president. A paper by Dr. Wm. P. Cornell on the "Types, Causes, Prevention and Treatment of Diarrheas in Infancy" was presented in this issue of the Journal.

# Editorials

### Medical Education Armistice

The issues and battle regarding establishment of a second medical school for South Carolina do not appear resolved; however, at least an armistice seems to have been reached. It still seems quite difficult to evaluate the various approaches and solutions proposed for the problem, particularly when the various studies appear to be somewhat contradictory. Contradictions still seem to be present, particularly regarding the key issues—i.e. Is there a need for a second school, and can the State afford such an institution. It seems that the various studies, proposed approaches, and solutions, if anything, have created more confusion regarding the key issues and it would appear most difficult to make a rational decision at the present time.

In view of this, it does appear that the moratorium which has been established at the present time may be the most prudent approach, particularly if federal funding thought to be available is in actuality not available, which would reduce the urgency of making a decision under the pressure of a time factor. Despite this, I feel it would be a matter of gross negligence if the issues are allowed to die in terms of future overall planning for medical education in South Carolina.

Despite this, it would seem only appropriate that full support be given to the Medical University and other involved facilities for the development of the best quality of medical education under the current consortium system which is an actuality at the present time. This has been demonstrated to be a promising approach in some states, however in itself should not necessarily negate the possible establishment of a second school.

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Current G.U. Research

# Gantanol® in animals
## sulfamethoxazole)



ntrol



12.5 mg sulfamethoxazole/kg of body weight



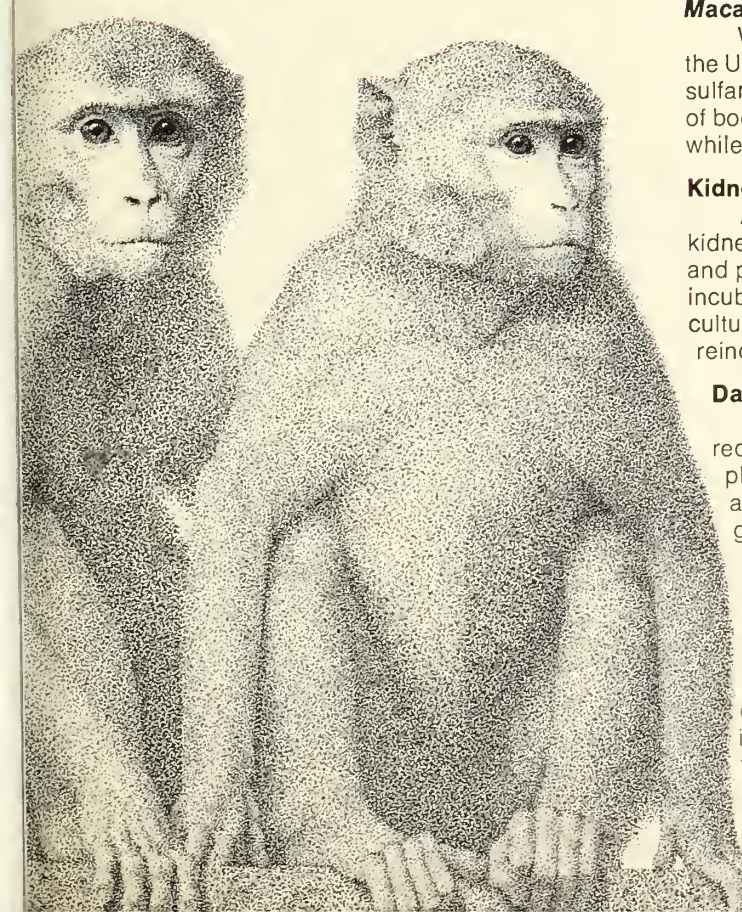
50 mg of sulfamethoxazole/kg of body weight



100 mg of sulfamethoxazole/kg of body weight

## Tissue slice technique maps renal distribution in animal studies

**Please note that while the method described may add to the knowledge of how antibacterial agents are distributed in the kidney of this animal, no conclusions can be drawn from this study relative to the drug's distribution, effect or use in humans, as it is not possible to extrapolate animal data to humans.**



**Gantanol® (sulfamethoxazole) administered to *Macaca speciosa* monkeys**

Working with *Macaca speciosa* monkeys, researchers at the University of Arkansas Medical Center administered sulfamethoxazole at doses of 12.5 mg, 50 mg and 100 mg/kg of body weight. Each dosage level was given to three animals while three were left untreated as controls.*

**Kidneys inoculated with *Staphylococcus aureus***

After 2½ hours, the 12 monkeys were sacrificed and their kidneys frozen with $CO_2$. Sagittal tissue slices were prepared and placed on blood agar bacteriological plates. They were incubated at 37°C. for 1½ hours. *Staphylococcus aureus* broth culture was then used to inoculate the tissue and slices were reincubated.*

**Dark staining reveals heavy bacterial growth**

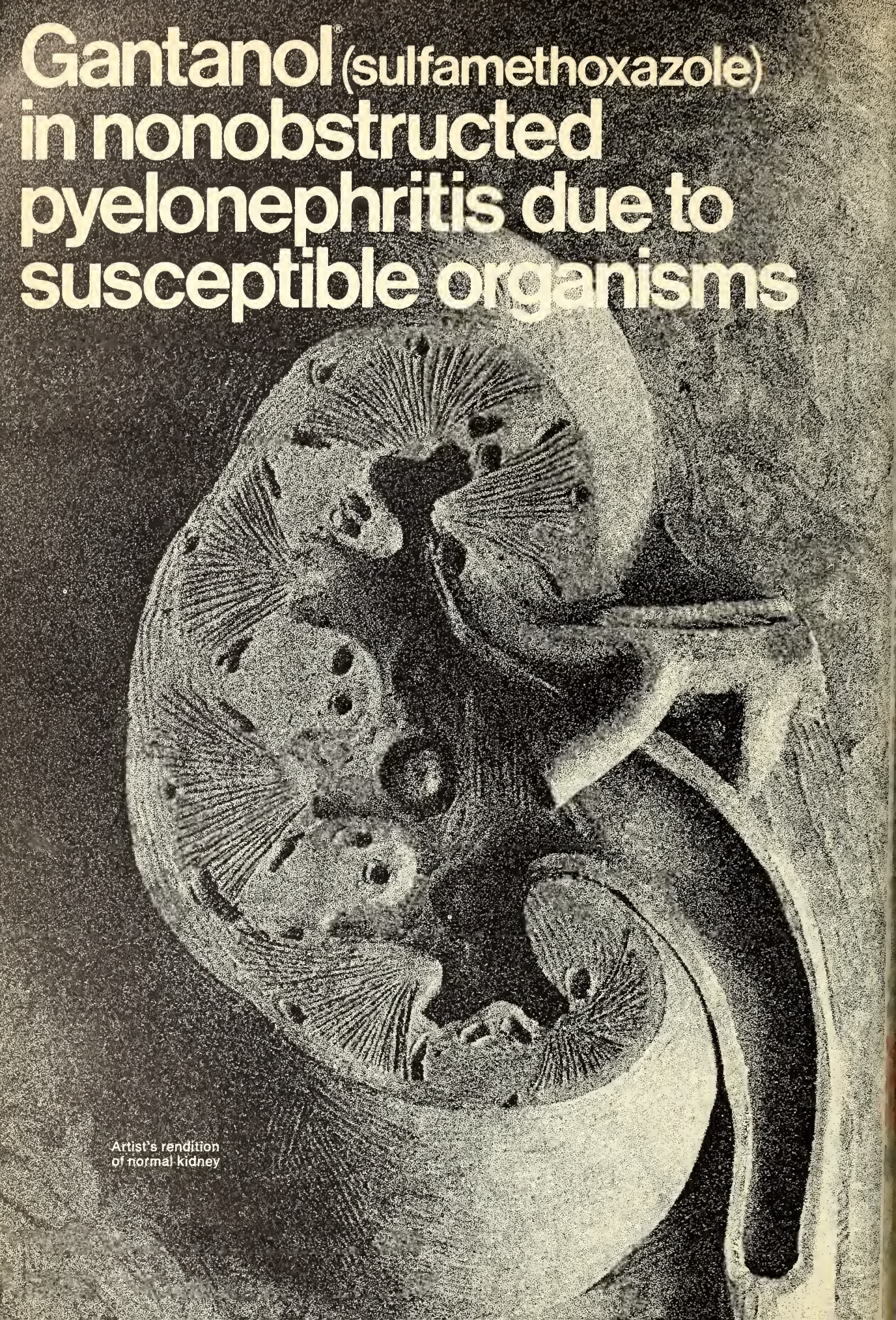
A solution of triphenyltetrazolium chloride, which turns a reddish purple in the presence of bacteria, was added to the plates after 6 hours. Renal slices from the untreated control animals consistently demonstrated heavy bacterial growth, as evidenced by dark staining.*

**Distribution throughout *Macaca speciosa* renal parenchyma**

At the dosage of 12.5 mg/kg of body weight, a diffuse stain pattern indicated partial inhibition of bacterial growth. Renal slices from monkeys given the 50 and 100 mg/kg doses showed no staining, indicating complete bacterial inhibition and *suggesting* antibacterial distribution throughout the parenchyma.*

*Mobley, J. E.; Redman, J. F., and Robbins, R. P.: *Surg. Gynec. Obstet., 131*:1122, 1970.

# Gantanol® (sulfamethoxazole) in nonobstructed pyelonephritis due to susceptible organisms



Artist's rendition of normal kidney

## stablishes antibacterial levels in blood nd urine in from 2 to 3 hours

from 2 to 3 hours of the initial 2-Gm adult dose, effective tibacterial levels of Gantanol® (sulfamethoxazole) are hieved in both blood and urine. This prompt, early treatment acute nonobstructed pyelonephritis may help avert possible ronic sequelae.

## ontrols primary bacterial offenders

ntibacterial Gantanol (sulfamethoxazole) controls susceptible *coli*, the most common cause of urinary tract infections. It is so effective against other susceptible gram-negative and gram-positive urinary pathogens such as *Klebsiella-Aerobacter, Staph. reus* and *Proteus mirabilis.*

## lso effective in nonobstructed chronic nd recurrent urinary tract infections

s also common for the elderly and debilitated to develop ronic nonobstructed urinary tract infections, primarily pyelo-phritis and cystitis. Such cases often respond satisfactorily to erapy with Gantanol.

## .I.D./T.I.D. schedule gives ound-the-clock coverage

bsequent 1-Gm doses can provide up to 12 hours of antibacte-l activity. The *b.i.d.* dosage is recommended for mild to derate infections; the *t.i.d.* for the more severe u.t.i. Gantanol ovides coverage around the clock—coverage that is especially portant during the hours of sleep, when urinary retention vors bacterial proliferation.

## our option: tablets or suspension

Gantanol is available in two convenient dosage forms—tablets or pleasant-tasting suspension. It is generally well tolerated with ative freedom from complications. The usual precautions with lfonamide therapy should be observed, including adequate fluid ake, frequent c.b.c.'s and urinalyses with microscopic exam-ation. The most common side effects reported are nausea, miting and diarrhea. (It should also be noted that the increasing equency of resistant organisms is a limitation of usefulness of tibacterial agents, including sulfonamides, especially chronic or recurrent u.t.i.)

**i nonobstructed pyelonephritis ue to susceptible organisms**

# Gantanol®
# (sulfamethoxazole)

## Basic therapy

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Effective in acute, recurrent or chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella-Aerobacter, Staphylococcus aureus, Proteus mirabilis,* and, less frequently, *Proteus vulgaris*) and in the absence of obstructive uropathy or foreign bodies.

***Note:* Since *in vitro* sulfonamide sensitivity tests are not always reliable, carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response. Add aminobenzoic acid to culture media of patients receiving sulfonamides. The increasing frequency of resistant organisms is a limitation of usefulness of antibacterial agents, including sulfonamides, especially in chronic or recurrent urinary tract infections.**

Blood levels should be measured in patients receiving sulfonamides for serious infections, since there may be wide variations with identical doses; 20 mg/100 ml should be the maximum total sulfonamide level, as adverse reactions occur more frequently above this level.

**Contraindications:** Sulfonamide hypersensitivity; infants less than 2 months of age (except adjunctively with pyrimethamine in congenital toxoplasmosis); pregnancy at term and during nursing period.

**Warnings:** Safe use in pregnancy has not been established, and teratogenicity potential has not been thoroughly investigated. Sulfonamides will not eradicate or prevent sequelae to group A streptococcal infections, *i.e.,* rheumatic fever, glomerulonephritis. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported; early clinical signs such as sore throat, fever, pallor, purpura or jaundice may indicate serious blood disorders. Complete blood counts and urinalysis with careful microscopic examination are recommended frequently during sulfonamide therapy. Clinical data are insufficient on prolonged or recurrent therapy in chronic renal diseases of children under 6 years.

**Precautions:** Use with caution in patients with impaired renal or hepatic function, severe allergy, bronchial asthma and in glucose-6-phosphate dehydrogenase-deficient individuals. In the latter, dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias:* agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia; *allergic reactions:* erythema multiforme (Stevens-Johnson syndrome), skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis; *gastrointestinal reactions:* nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis; *C.N.S. reactions:* headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia; and *miscellaneous reactions:* drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide and thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

**Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age,** except adjunctively with pyrimethamine in congenital toxoplasmosis. Usual dosage is as follows: *Adults*—2 Gm (4 tabs or teasp.) initially, then 1 Gm (2 tabs or teasp.) *b.i.d.* or *t.i.d.* depending on severity of infection. *Children*—0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, followed by 0.25 Gm/20 lbs (½ tab or teasp.) *b.i.d.* Maximum dose for children should not exceed 75 mg/kg/24 hrs.

**Supplied:** Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.

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# AMA CLINICAL CONVENTION, NEW ORLEANS, LOUISIANA
# NOVEMBER 28 TO DECEMBER 1, 1971

JOHN C. HAWK, JR., M. D., CHARLESTON

There can be little doubt in anyone's mind as to the most important topic before the House of Delegates at the Clinical Convention of the A M A held in New Orleans November 28 to December 1, 1971. It had started, of course, with President Wesley Hall's inaugural address at the Annual Convention at Atlantic City in June, when he called for a Constitutional Convention to reorganize the entire structure of the A M A. At that time the Board of Trustees recommended that the whole idea be rejected out of hand, considering it unnecessary and expensive, but the House of Delegates gave it a temporary lease on life by deferring final action until the Clinical Convention. During the six months' interval between the two meetings, there was certainly plenty of speculation as to how big a rift was developing between President Hall and the Board of Trustees, and just what the action of the House would probably be.

We did not have to wait long at New Orleans to find out that the rift is a deep chasm. Dr. Hall, addressing the House early in the meeting on Sunday afternoon, entitled his message "The Will to Win". He quoted, without specific identification, from Tom Parker's report in this journal of the Annual Meeting in which he stated, "It is only fair to say that there is a serious struggle for power in the ranks of the A M A. The struggle exists not only between the elected officers but, in the opinion of your writer, between the elected officers and the staff. It involves personalities and principles. Moreover, it does no good to blame outside troubles for the A M A's present division. It is *sui generis*." Dr. Hall added the comment, "I might simply add that I believe that this particular delegate is exactly on target".

Dr. Hall reemphasized the problems facing the A M A, both from within and from without and again called for restructuring of the A M A, although not insisting upon a Constitutional Convention to effect these changes.

I will not try to record in any detail what transpired as a result of Dr. Hall's further challenge. It was reported fully in both the lay and the medical press, generally with accuracy. The whole topic was referred to a special Reference Committee where there was a heated discussion in a packed hearing room. It was obvious that the Board of Trustees was lined up against Dr. Hall's report. This committee also had referred to it a report of the Council on Constitution and By-Laws in regard to the suggestion for a constitutional convention and also a report of the Council on Long-Range Planning and Development on the same subject.

Dr. Hall spoke again to the House of Delegates on the final day of the Convention. His talk was correctly described in the press as "highly emotional". Most members of the House felt that Dr. Hall did his own cause, and that of restructuring the A M A, little good and perhaps much harm with this presentation.

The Reference Committee's report attempted to pour some oil on the troubled waters. It generally backed the Board of Trustees by reiterating previous actions of the Board in "vigorously pursuing" the problems of membership and of planning, and felt that some of the problems would be alleviated by recent changes in the Constitution and By-Laws. It stated that many of the problems faced by medicine stem from social unrest, common to all society, and stated that Dr. Hall, "in his tireless efforts and appearances throughout the country has seen this unrest and is to be commended for bringing this to the attention of the House of Delegates". The Committee recommended that Dr. Hall's re-

marks and Resolution 50 be referred to the Council on Long-Range Planning and Development. However, the House of Delegates went considerably further by instructing the council to hold open hearings for the membership at the Annual Meeting in San Francisco in June 1972, and again at the Clinical Meeting in Cincinnati in November 1972, and to provide the House with progress reports and a final summary on its recommendations and findings in June 1973 in New York.

The issue of reorganization of the A M A is still a very live one and will consume much time before it is finally acted upon or laid to rest!

### S. C. Delegation

The South Carolina Delegation sorely missed the presence of its senior delegate, Dr. Tom Parker, who was taken ill shortly before the convention date and could not attend. There were many inquiries about him from leaders of the A M A and delegates from many states, indicating the high esteem in which he is held. We were happy to be able to report that he was recovering rapidly and that his illness was of a minor infectious nature.

His seat in the House of Delegates was filled by Dr. Harrison Peeples of Estill on the first two days, and Dr. Tucker Weston on the last day.

The official delegation again welcomed the presence of other influential members of the S C M A attending the convention, who met with us in caucus and aided in appearances before the Reference Committees. These included Dr. Jake Booker, President, and Dr. William Perry. We "basked in the reflected glory" of having Jack Meadors serve as President of the American Association of Medical Society Executives, and we called upon Richard Pugh, our Executive Assistant, for needed "legwork". It was our pleasure to have Mesdames Booker, Peeples, Weston, and Perry join us for the social delights of New Orleans and also Harrison Peeples' daughter Elizabeth and her husband Henry Laffitte (a powerful name in N.O.!).

We had the refreshing experience of being joined for one pleasant evening by four Tulane medical students, whom we met through a charming young lady from Marion, who is a freshman there.

### S. C. Resolution

The only resolution submitted by the South Carolina delegation pertained to the Brademas Amendment to OEO legislation passed by the U. S. House of Representatives. Our resolution called upon the House of Delegates of the A M A to "petition the President of the United States to veto the OEO bill if its final form contains any portion of the Child Welfare / Child Advocacy Program contained in the Brademas Amendment, both because of the prohibitive financial expense of the program, but even more particularly because of the destructive effect which its implementation would have upon the authority and unity of the traditional American family . . . . ."

The Reference Committee noted that the OEO bill was at that time under consideration by a House - Senate Conference Committee and that it was not known at that time what provisions contained in any OEO bill would be recommended by the Conference Committee. The Reference Committee felt therefore that the Board of Trustees and its Council on Legisaltion should have the latitude to respond appropriately when the legislation came out of Conference and therefore recommended referral to the Board of Trustees for appropriate action. This was accepted by the House of Delegates. It is noteworthy that the President subsequently vetoed the Bill because of the sweeping Child Welfare provisions.

### AMPAC Addressed by Agnew

The tenth anniversary of the founding of the American Medical Political Action Committee was celebrated by a well-attended dinner featuring Vice-President Spiro T. Agnew as the speaker. He spoke in some detail about the vast amount of legislation in Congress concerned with health care and particularly its delivery. He emphasized that organized medicine's involvement is crucial to any program which will ultimately be formulated, and commended AMPAC members' willingness to become involved in politics. He emphasized repeatedly that any shortcomings in providing every American with good health care should be answered, not by scrapping the entire present system, but by improving on it and eliminating deficiencies. Needless to say,

he spoke in favor of the Nixon Administration's Health Care proposals.

It was interesting to note the stringent security precautions taken in regard to Mr. Agnew's appearance. After the close of the dinner, which was attended by about 1,000 physicians and guests, he made a brief appearance at a reception for a smaller group, where he spoke "off-the-cuff" and it was possible to get a more direct impression of his dynamic personality. It was also possible to note the fatigue from his rigorous schedule which showed through at close range.

### Important Actions

Picking out the most significant actions of the House of Delegates is difficult and fraught with pitfalls. Although only 72 resolutions were considered, a small drop from 75 considered at the 1970 Clinical Convention, there were 38 reports of the Board of Trustees and the various Councils, many of them quite lengthy and involved, as compared with 32 reports in 1970. The House and its Reference Committee certainly had plenty to do. I will mention only a few items and not attempt to be inclusive:

The need for increased participation in the affairs of the A M A by medical students, interns, and residents was clearly recognized. This topic was discussed at length, both in the Reference Committee and on the floor of the House. The Reference Committee's substitute resolution which would, in effect, have placed the matter back in the hands of the Board of Trustees, was rejected in favor of a California substitute resolution, presented by Dr. Joseph Boyle. By this, the House of Delegates approved the creation of a special section on medical students, in addition to the one on interns and residents, and referred this matter to the Council on Constitution and By-Laws for appropriate implementation, in cooperation with S A M A, and the organization of interns and residents.

The problem of the late submission of Resolutions to the House again came up for much debate. There is considerable feeling at each meeting that delegates should have an opportunity for advance study of all resolutions. The Reference Committee's recommendation, adopted by the House, will require that resolutions, other than those of an emergency nature, be received at A M A Headquarters at least thirty days prior to the beginning of any session for which they are to be considered, *except* that resolutions adopted by the House of Delegates of any constituent medical society be mailed so as to be received at A M A Headquarters within seven days of the close of the meeting of the constituent society, whichever might be closer to the commencement of the meeting of the A M A House. At least two amendments were defeated but two significant ones were passed, one to exempt the specialty sections form this time-schedule requirement and the second to ask the Board of Trustees to study the problem of late reports from the A M A committees, councils, and Board of Trustees. This study is to be reported at the annual meeting in 1972.

Heretofore, the vice-president of the A M A has been a non-voting member of the Board of Trustees. Action was taken to accord him a vote in the Board.

The ramifications of medical and paramedical education, and post graduate training, came in for much discussion through resolutions and reports of councils, especially the Council of Medical Education. The House directed the A M A through its Council on Health Manpower, to assume "a leadership role in developing and sponsoring a national program for certification of the assistant to the primary care physician, who functions at the highest level of responsibility, described by the National Academy of Sciences as a Type A assistant." The Council on Medical Education's report outlining requirements for A M A approval of educational programs for such assistants was also approved. The knotty problem of guidelines on compensation of physicians for the services of their assistants was referred to the Board of Trustees, to be reported upon in June. A resolution opposing national licensure of physicians and supporting state boards of examiners and interstate reciprocity of state licensing was approved.

There was extensive testimony in Reference Committee in regard to a resolution from the New York delegation pertaining to the use of private patients for the teaching of medical

students, interns, and residents. The House of Delegates resolved to "go on record as opposing any regulations that prevent the physician on the staff from controlling decisions concerning the care of his own patients."

It also directed that this be brought to the attention of all teaching hospitals and that the Council of Medical Education and the Judicial Council study further the problem of the use of patients for teaching of medical students, interns, and residents, and report at the annual session in 1972.

The House addressed itself at length to the rising costs of hospital care and particularly to those cost factors which might be attributable to hospital-based educational programs. The Reference Committee brought in an excellent substitute resolution, which first reiterated the A M A concern about increased costs and pledged A M A efforts to achieve cost control, and then added the following:

"Resolved, that the Board of Trustees be urged to assign to appropriate councils and committees the responsibility to conduct a detailed study of the costs of hospital services to identify (1) the multiple factors involved; (2) the elements that have the greatest impact on the rise in hospital costs; (3) the various 'cost factors attributable to hospital-based medicine and allied health education programs; (4) the alternative mechanisms to finance the costs of such educational programs including the possibility of reducing or eliminating charges to patients that are attributable to such programs; (5) the degree of impact, if any, that federally funded health programs have on these hospital costs."

This study is to be conducted in consultation with the American Hospital Association, private and governmental payment agencies, representatives of the public, etc. Periodic progress reports are to be made.

The House received and studied Report N of the Board of Trustees in regard to a comprehensive study of international comparisons of infant mortality statistics and adopted a resolution requesting the A M A to publicize its concern with infant mortality rates and to encourage the international use of a standard reporting form for infant deaths. The House also directed the A M A to encourage international employment of uniform definitions, registration requirements, and reporting practices for live birth and stillbirths (fetal deaths), and directed the A M A Committee on Maternal and Child Care to continue to work with the National Center for Health Statistics towards the utilization of standardized definitions and forms for recording live births and fetal deaths in the United States. It also directed that these actions be called to the attention of the World Medical Association and the World Health Organization.

### House Actions In Brief

Other actions by the House of Delegates included the following:

. . . Directed the Council of Medical Education to recommend strongly to all medical schools that their admission committees include a significant proportion of practicing physicians.

. . . Approved participation of non-members of the A M A in the A M A scientific programs.

. . . Insisted that all multiple health-testing programs be supervised by qualified physicians at the testing center and that the physician must see that the patient is advised to seek a physician's care for any abnormal findings.

. . . Affirmed that the frequency with which any patient is seen is an extended care facility is properly the decision and responsibility of the patient's physician, subject to proper and recognized review of his peers.

. . . Adopted an A M A policy statement on alcoholism, stating unequivocally that alcoholism is a complex *disease*, but also discussing the non-medical elements of alcoholism.

. . . Adopted a resolution emphasizing the situations where the use of smallpox vaccinations should be encouraged and stressing the importance of alerting the medical profession to the indications and contraindications for vaccination against smallpox.

. . . Expressed support for the ongoing study of sickle-cell anemia.

. . . Directed the A M A to petition the Bureau of Narcotics and Dangerous Drugs

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## (diethylpropion hydrochloride, N.F.)

When girth gets out of control, TEPANIL can provide sound support for the weight control program you recommend. TEPANIL reduces the appetite—patients enjoy food but eat less. Weight loss is significant—gradual—yet there is a relatively low incidence of CNS stimulation.

**Controindicotions:** Concurrently with MAO inhibitors, in patients hypersensitive to this drug; in emotionolly unstoble potients susceptible to drug abuse.

**Worning:** Although generally sofer than the amphetamines, use with greot cautian in patients with severe hypertension or severe cordiovascular disease. Do not use during first trimester of pregnoncy unless potentiol benefits outweigh potential risks.

**Adverse Reoctions:** Rarely severe enough to require discontinuation of therapy, unpleosont symptoms with diethylpropion hydrochloride hove been reported to occur in relatively low incidence. As is chorocteristic of sympothomimetic ogents, it moy occasionolly cause CNS effects such as insomnio, nervousness, dizziness, anxiety, and jitteriness. In controst, CNS depression has been reported. In a few epileptics an increase in convulsive episodes has been reported. Sympothomimetic cordiovascular effects reported include ones such as tochycordio, precordiol poin, arrhythmio, polpitotion, ond increased blood pressure. One published report described T-wove changes in the ECG of a healthy young mole ofter ingestion of diethylpropion hydrochloride; this was on isoloted experience, which has not been reported by others. *Allergic phenomeno* reported include such conditions os rosh, urticoria, ecchymosis, ond erythemo. *Gastraintestinol effects* such as diarrheo, constipation, nauseo, vomiting, and abdominol discomfort hove been reported. Specific reports on the hemotopoietic system include two eoch of bone morrow depression, ogranulocytosis, and leukopenia. A voriety of miscellaneous odverse reoctions hove been reported by physicions. These include complaints such as dry mouth, headoche, dyspneo, menstruol upset, hair loss, muscle poin, decreosed libido, dysurio, ond polyuria.

**Convenience of two dosoge forms:** TEPANIL Ten-tab tablets. One 75 mg. tablet daily, swallowed whole, in midmorning (10 o.m.). TEPANIL. One 25 mg. toblet three times daily, one hour before meals. If des'red, on additional toblet may be given in midevening to overcome night hunger. Use in children under 12 years of oge is not recommended.

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- Prevents painful night leg cramps
- Permits restful sleep
- Provides simple convenient dosage — usually just one tablet at bedtime

**Prescribing Informotion—Composition:** Each white, beveled, compressed toblet contains: Quinine sulfate, 260 mg., Aminophylline, 195 mg. **Indications:** For the prevention and treatment of nocturnal and recumbency leg muscle cramps, including those associated with arthritis, diabetes, varicose veins, thrombophlebitis, arteriosclerosis and static foot deformities. **Contraindicotions:** Quinamm is contraindicated in pregnancy because of its quinine content. **Precoutions/Adverse Reoctions:** Aminophylline may produce intestinal cramps in some instances, and quinine may produce symptoms of cinchonism, such as tinnitus, dizziness, and gastrointestinal disturbance. Discontinue use if ringing in the ears, deafness, skin rash, or visual disturbances occur. **Dosoge:** One tablet upon retiring. Where necessary, dosage may be increased to one tablet following the evening meal and one tablet upon retiring. **Supplied:** Bottles of 100 and 500 tablets.

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Trademark: Quinamm

# Quinamm

(quinine sulfate 260 mg., aminophylline 195 mg.)

Specific therapy for night leg cramps.

to develop a less complicated physician application form.

. . . Approved a resolution calling upon the Board of Trustees to study the feasibility of publishing a monthly socio-economic journal.

. . . Adopted a resolution calling for future Clinical Conventions (not already definitely scheduled) to be scheduled so as to avoid the Thanksgiving week-end where possible.

. . . Commended the A M A Washington office for its work, but defeated a resolution which would have given this office extra funds for expansion of its staff.

. . . Defeated a resolution which would have reduced by 50% the A M A dues for physicians in practice less than three years.

. . . Directed that an expanded summary of Board of Trustees actions be published in the *American Medical News* promptly after each Board meeting, and when appropriate, in other A M A publications. Turned down a California amendment which would have required open meetings of the Board of Trustees.

. . . Referred to the Board of Trustees and its Council on Health Manpower two resolutions referable to tax and other incentives for M.D.'s practicing in deprived areas.

. . . Recognized the high professional and civic qualifications of many female physicians and, as a matter of policy, voted to encourage their election and appointment to positions of importance in and outside the Association.

. . . Adopted a resolution directing the A M A to publicize the fact that the number of physicians engaged in patient care has increased in recent years, with a correspondent improvement in the physician-patient ratio. This resolution arose as a result of concern about the publication of erroneous statistics, which might suggest the opposite, but which have been derived from comparisons between figures from two different record-keeping systems.

. . . Directed the A M A Communications Division to continue to publicize effectively the fact that the A M A does in fact represent the overwhelming majority of office-based practicing physicians in the United States.

. . . Recommended adoption of a resolution asking for the cooperation of A M A publications in certain aspects of the Bicentennial Celebration of the signing of the Declaration of Independence.

. . . Defeated a resolution which called for the A M A to sponsor on a biannual basis a conference of executive directors of state medical associations and national medical specialty organizations. It was pointed out that adequate avenues of communication involving the A M A and state medical societies already exist and the proposed conferences would be highly expensive.

. . . Referred to the Council on Long-Range Planning and Development a proposal that the present method of selecting trustees be revised so that members of the Board of Trustees would be elected on a regional basis.

### Other Items

Dr. Milton Helpern, Chief Medical Examiner for New York City, was named to receive the 1972 A M A Distinguished Service Award.

Mr. Mac F. Cahal, general counsel and retired executive director of the American Academy of Family Physician's was selected as the 12th recipient of the A M A Layman's Citation for Distinguished Service.

Dr. John M. Chenault, President of the A M A Education and Research Foundation, reported the receipt of $1,060,000 in donations in nine months. The Illinois State Medical Society presented the AMA-ERF an additional gift of $180,000 at the Sunday session of the House.

The scientific sessions and exhibits at the beautiful Rivergate Exhibition Center were reported to be unusually fine and well-attended.



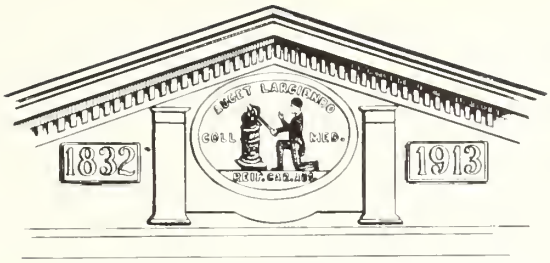

Beaufort-Jasper Comprehensive Health Services has announced the appointment of **Dr. Michelle J. Harrison** to the newly opened St. Helena Satellite Center. Dr. Harrison received her M. D. from New York Medical College in 1967 and received further training at Monmouth Medical Center in Long Branch, N. J. **Dr. Robert G. Kiger** has been named director of cardiovascular services at Providence Hospital in Columbia. Dr. Kiger, a cardiologist and diplomate in internal medicine, received his training at Vanderbilt and the Medical College of Georgia.

**Drs. Attilio Ceraldi** and **John Guy** have opened new offices at the Abbeville Hospital Doctor's Building. **Drs. R. B. Antley, Jr.** and **William F. Ward, Jr.** from Lexington County are on a volunteer medical mission to the Dominican Republic. They will work under a program sponsored by the Christian Medical Society of Oak Park, Illinois. **Dr. Dee C. Breeden** has been named director of the division of child health within the Bureau of Maternal and Child Care of the State Board of Health. He will continue as director of the Board of Health's development evaluation clinic. **Dr. Edward F. Parker** has been re-elected chairman of the Roper Hospital Board of Commissioners in Charleston. Also re-elected were **Dr. Bachman S. Smith, Jr.**, vice chairman; **Dr. Henry C. Robertson**, secretary; and **Drs. H. S. Pettit**, and **Julian T. Buxton**, members of the board.

**Dr. Robert B. Hunt** has joined the professional association of **Drs. Fouche, Laffitte** and **Wyman** for the practice of Obstetrics and Gynecology in Columbia. Dr. Hunt received his M.D. degree from the Medical University of South Carolina in 1964 and then studied at the Mary Imogene Bassett Hospital in Cooperstown, New York, an affiliate of Columbia University College of Physicians and Surgeons. He was a teaching fellow at Harvard Medical School.

The Scientific Sessions of the South Carolina Heart Association will be held May 12-13, at the Ocean Forest Hotel in Myrtle Beach. Guest faculty will be Dr. Monroe Cole, Chief of Neurology, Highland View Hospital and Associate Professor of Neurology, Case Western Reserve University School of Medicine, Cleveland, Ohio. A special guest will include Academy Award actress Patricia Neal, who will discuss her stroke recovery and rehabilitation.

For further information contact Dr. Charles Summerall, Chairman at the South Carolina Heart Association, P. O. Box 5937, Columbia, South Carolina.




## Medical University of South Carolina

**Dr. Walter H. Newman,** assistant professor of pharmacology, has been awarded a $20,157 federal grant to ascertain why, at a critical state in heart failure, the heart fails to compensate for the work demand placed upon it. The research award is the first of three grants recommended for Dr. Newman by the National Heart and Lung Institute for the period 1972-75.

**Dr. Peter C. Gazes,** chief of the Medical University of South Carolina's cardiology division, has accepted an invitation to address the Second Panhellenic Congress of Cardiology this spring in Athens, Greece. Attending will be the majority of Greek heart specialists and also general practitioners from all points of Greece. Dr. Gazes new textbook, *Practical Cardiology,* is to be published next year by Year Book Publishers.

The Medical University is now serving as the national center for the collection of data on spinal cord injuries. **Dr. Thomas B. Ducker** will be the principal investigator for this two year project aimed at determining the consistently best early treatment of neck and back injuries. Co-investigator and professional associate is **Dr. Phanor L. Perot, Jr.**

**Dr. James Jennings Cleckley,** former chairman of the Department of Psychiatry, has been honored by former psychiatric residents for his contributions to their careers and to the department. A portrait of Dr. Cleckley was presented to the University during a recent meeting of the S. C. District Branch of the American Psychiatry Association.

**Drs. Edward W. Catalano** and **Powell Reid Locklair, Jr.,** both attending the Medical University, have been awarded American Cancer Society Clinical Fellowships for 1971-72. The fellowships are designed to give promising young physicians special training in cancer work.

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# DEATH

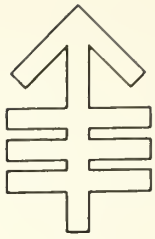
### Dr. J. G. Shaw

Dr. James Graham Shaw, M. D., 64 of 2822 Canterbury Road, Columbia, died on February 28 in his home.

Dr. Shaw was a veteran of World War II, serving as a physician with the Combat Engineers under Gen. Patton. He was a member of the South Carolina and Columbia medical societies, the Palmetto Club, the American Heart Association and the National Rehabilitation Association.

A graduate of the University of South Carolina and of the Medical College of South Carolina, he had practiced medicine in Columbia since 1935.

# CANCER TOPICS



## CHEMOTHERAPY

PAUL H. O'BRIEN, M.D., F.A.C.S.*

Cancer chemotherapy has probably generated more enthusiasm, hope, and disappointment than any other phase of Oncology. The expectations were well-voiced by the late Dr. Cornelius Rhoads. When Dr. Rhoads was acquiring funds for the establishment of the Sloan-Kettering Institute, he felt that within ten years and with the expenditure of 10 million dollars, specifically in the area of chemotherapy, a solution to the cancer problem could be realized. Thirty years later and some 300 million dollars later, the Sloan-Kettering Institute finds the cancer problem untamed. The National Cancer Institute, under Kenneth Endicott, began in 1955 diverse systems for drug development. These systems were defining 35,000 new materials per year by 1960. The drug development program was advised and controlled by many of our Country's finest scientists. The base of the program was solely empirical. By 1965 drugs were available which could cause complete and long lasting regressions of a few rare tumors, all of the tumors characterized by rapid growth rates. The much more common, slow growing tumors displayed a much poorer response to drug control.

Beginning in 1965, a more rational approach to drug control of cancer was obtained with insights into cell population kinetics. The introduction of tritiated thymidine techniques made it possible to study cell kinetics of normal and abnormal cells. The portrayal of the cell life with *G-1*, S, *G-2*, and *D* time period was originated by Howard and Pelc.[1] In this schema we have four different phases. The S phase is the essence of chromosome replication or deoxyribonucleic acid synthesis with the beginning of DNA synthesis. This S phase, or synthesis phase, is usually six to eight hours in most mammalian cells. It is then followed by an interval of some two to three hours in the so-called *G-2*, or rest phase, which separates the end of DNA synthesis from the initiation of prophase in mitosis and cell division. The period of mitosis, or cell division, is referred to as the *D*, or division phase, and commonly lasts less than an hour. The *G-1* phase is when the cell acquires specificity and differentiation. It is the phase that has the greatest variation in duration. In acute stem cell leukemia, the *G-1* phase may be merely a matter of minutes. Indeed, in liver cells, kidney cells, and brain cells, the *G-1* phase may last a *lifetime*. It is only upon reviewing the cell cycle and how our chemotherapeutic agents affect the cycle that we might hopefully improve our results with chemotherapy.

If we should have a very slow growing colon cancer which might, indeed, have a *G-1* phase of months, it would seem unwise to apply an alkylating agent with its specific affinity for crosslinking guanine groups in DNA, as the cell would be susceptible to the drug only some ten hours out of a cycle of three months. If we accept the premise that alkylating agents essentially act the same in DNA synthesis, we might then conclude that alkylating agents are most effective when the cells are rapidly replicating and the DNA stage of the cell cycle is a relatively significant time fraction of the cell cycle.[2] On the other hand, when we have cancer cells replicating very slowly, it might seem more advantageous

*Associate Professor of Surgery, Medical University of South Carolina.
Director, Cancer Clinic, Medical University of South Carolina.

# 140/90 is normal blood pressure...or is it?

## An extensive study based on nearly 4 million life insurance policies suggests that a blood pressure reading of 140/90 requires close medical supervision.

**Study Findings.** Twelve years ago the Society of Actuaries reported on an extensive study based on the lives and deaths represented by almost 4 million life insurance policies. From this vast survey—"The Build and Blood Pressure Study"[1]—insurance experts concluded that:

- Blood pressure above 140/90 is accompanied by increased morbidity and requires close medical attention.
- Even small increments in either systolic or diastolic blood pressure progressively and steeply shorten life expectancy.

**Other Studies.** Studies conducted with large numbers of patients since that time have echoed the above findings. Two studies published in 1970—the VA Cooperative Study Group on "Effects of Treatment on Morbidity in Hypertension"[2] and the "Framingham Study"[3]—suggest that treatment of even mild hypertension may, over time, offer significant benefits to the patient.

**Another Point of View.** Although a growing body of studies suggests that treatment of mild hypertension is warranted, medical opinion is not unanimous. Some clinicians recommend that drug treatment for mild hypertension be reserved for patients with additional risk factors such as smoking, high cholesterol levels, heart or kidney involvement, or a family history of vascular disease. Dr. Walter M. Kirkendall stated this position in his recent paper "What's With Hypertension These Days?"[4] Discussing the management of hypertension in patients with a sustained diastolic pressure up to 100 mm Hg, he said: "Generally, I do not recommend antihypertensive therapy unless patient's blood pressure approaches the upper limit for the group and a number of adverse factors exist, such as male sex, family history of vascular disease, youth, evidence of heart or kidney involvement."




**Drug Therapy for Hypertension.** Although opinion varies on when to start drug therapy for mild hypertension, many physicians agree that treatment should start with a thiazide diuretic such as HydroDIURIL. For the adult patient, the usual starting dosage is 50 mg b.i.d. Dosage adjustments are recommended as the patient responds to treatment. The patient whose therapy begins with HydroDIURIL frequently can continue to benefit from it, because HydroDIURIL usually maintains its antihypertensive effect even when therapy is prolonged.

MSD
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25- and 50-mg tablets

HydroDIURIL®
(Hydrochlorothiazide|MSD)

Therapy to Start With

For a brief summary of prescribing information, please see next page.

1. Society of Actuaries, *The Build and Blood Pressure Study*, 1959.
2. Veterans Administration Cooperative Study Group on Antihypertensive Agents, "Effects of Treatment on Morbidity in Hypertension," JAMA *213*:1143-1152, Aug. 17, 1970.
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25- and 50-mg tablets

# HydroDIURIL®

## (Hydrochlorothiazide|MSD)

## Therapy to Start With

**Drug Therapy for Hypertension.** Although opinion varies on when to start drug therapy for mild hypertension, many physicians agree that treatment should start with a thiazide diuretic such as HydroDIURIL. For the adult patient, the usual starting dosage is 50 mg b.i.d. Dosage adjustments are recommended as the patient responds to treatment. The patient whose therapy begins with HydroDIURIL frequently can continue to benefit from it, because HydroDIURIL usually maintains its antihypertensive effect even when therapy is prolonged.

**CONTRAINDICATIONS:** Anuria; increasing azotemia and oliguria during treatment of severe progressive renal disease. Known sensitivity to this compound. Nursing mothers; if use of drug is deemed essential, patient should stop nursing.

**WARNINGS:** May precipitate or increase azotemia. Use special caution in impaired renal function to avoid cumulative or toxic effects. Minor alterations of fluid and electrolyte balance may precipitate coma in hepatic cirrhosis.

When used with other antihypertensive drugs, careful observation for changes in blood pressure must be made, especially during initial therapy. Dosage of other antihypertensive agents, especially ganglion blockers, must be reduced by at least 50% because HydroDIURIL potentiates their action.

Stenosis and ulceration of the small bowel causing obstruction, hemorrhage, and perforation have been reported with the use of enteric-coated potassium tablets, either alone or with nonenteric-coated thiazides. Surgery was frequently required, and deaths have occurred. Such formulations should be used only when indicated and when dietary supplementation is impractical. Discontinue immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occurs.

Thiazides cross placenta and appear in cord blood. In women of childbearing age, potential benefits must be weighed against possible hazards to fetus, such as fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult.

The possibility of sensitivity reactions should be considered in patients with a history of allergy or bronchial asthma. The possibility of exacerbation or activation of systemic lupus erythematosus has been reported for sulfonamide derivatives, including thiazides.

**PRECAUTIONS:** Check for signs of fluid and electrolyte imbalance, particularly if vomiting is excessive or patient is receiving parenteral fluids. Warning signs, irrespective of cause, are dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances. Hypokalemia may develop (especially with brisk diuresis) in severe cirrhosis; with concomitant steroid or ACTH therapy; or with inadequate electrolyte intake. Digitalis therapy may exaggerate metabolic effects of hypokalemia, especially with reference to myocardial activity. Hypokalemia may be avoided o treated by use of potassium chloride or giving food with a high potassium content. Similarly, any chlorid deficit may be corrected by use of ammonium chlorid (except in patients with hepatic disease) and largel prevented by a near normal salt intake. Hypochloremi alkalosis occurs infrequently and is rarely severe. I severely edematous patients with congestive failure o renal disease, a low salt syndrome may occur if dietar salt is unduly restricted, especially during hot weathe

Thiazides may increase responsiveness to tubocu rarine. The antihypertensive effect of the drug may b enhanced in the postsympathectomy patient. Arteria responsiveness to norepinephrine is decreased, neces sitating care in surgical patients. Discontinue drug 4 hours before elective surgery. Orthostatic hypotensio may occur and may be potentiated by alcohol, barbit urates, or narcotics.

Pathological changes in the parathyroid glands wit hypercalcemia and hypophosphatemia have been see in a few patients on prolonged thiazide therapy. Th effect of discontinuing thiazide therapy on serum ca cium and phosphorus levels may be helpful in asses ing the need for parathyroid surgery in such patient Parathyroidectomy has elicited subjective clinical im provement in most patients, but has no effect o hypertension. Thiazide therapy may be resumed aft surgery.

Use cautiously in hyperuricemic or gouty patient gout may be precipitated. May affect insulin requir ments in diabetics; may induce hyperglycemia ar glycosuria in latent diabetics.

**ADVERSE REACTIONS:** Rare reactions includ thrombocytopenia, leukopenia, agranulocytosis, apla tic anemia, cholestasis, and pericholangiolitic hepatiti Nausea, vomiting, diarrhea, dizziness, vertigo, pare thesias, transient blurred vision, sialadenitis, purpur rash, urticaria, photosensitivity, or other hypersen tivity reactions may occur. Cutaneous vasculitis pr cipitated by thiazide diuretics has been reported elderly patients on repeated and continuing exposu to several drugs. Scattered reports have link thiazides to pancreatitis, xanthopsia, neonatal thro bocytopenia, and neonatal jaundice. When adver reactions are moderate or severe, the dosage thiazides should be reduced or therapy withdraw

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to utilize drugs which have an effect during this *G-1* phase. 5-Fluorouracil has an effect on RNA although its major effort is in the disruption of DNA synthesis through the inhibition of thymidylate synthetase.[3] Methotrexate blocks dihydrofolate reductase, an enzyme, which is needed to produce one carbon fragments required in the biosynthesis of purine rings.[4] Such activities should make Methotrexate effective on cells which are in Stage S, D, or *G-2*. Another purinic antagonist is 6-Mercaptopurine which blocks the transformation of inosuric acid to adenylic acid.

We have in Actinomycin-D, a specific interference with the synthesis of messenger RNA and some effect on the guanine residues in DNA.[5]

Possibly the other most commonly used large group of chemotherapeutic agents are the alkaloids which have been isolated from green garden periwinkle, a species of myrtle. Their action allegedly is compromise of transfer RNA with arrest of mitoses in the metaphase, as observed with colchicine.

Therefore, we now have drugs which can affect different portions of the cell cycle and these drugs also have different toxic manifestations. The application of these new insights into the cancer cell cycle by the use of multiple drugs represents a major development in chemotherapy.

It was Skipper with the 1210 leukemia model who predicted the expected improved response rate with multiple drug therapy in humans.[7] It was this animal model that current regimens were designed for us in vivo. Five year cures in acute childhood leukemia are now recorded from drug therapy. If we think in terms of cell cycles, in the acute leukemia we have a cell that has most of its cell cycle in a most sensitive phase to chemotherapy.

Cancer chemotherapy is most often attempted when the tumors are clinically huge. This, of course, means that only the periphery of the large cancers will enjoy appropriate oxygen supply and an adequate arterial input. The central portion of the cancer will be hypoxic and appropriate delivery of the drugs highly unlikely. The ineffectiveness of single short sources of a drug in the re-treatment of

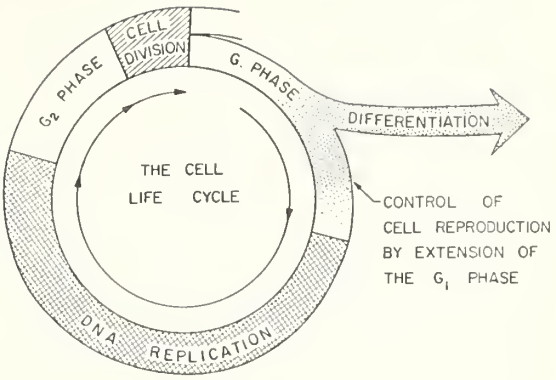



**Fig. 1. A diagram of the major components of the cell life cycle. In a mammalian cell in culture, $G_1$ is typically about 4 hours; S, about 7 hours; $G_2$, 2 to 3 hours; and division (D), about 1 hour. Cell reproduction in a tissue is regulated by the arrest of cells in the $G_1$ phase.**

recurrence after surgical resection of gastrointestinal cancers, lung cancers, breast cancers, is well documented.[9,10,11]

Evaluation of a given patient's cancer cell kinetics to better define appropriate chemotherapy remains a research study.

The role of chemotherapy is, therefore, going to remain in the foreseeable future for the patient with advanced cancer as a form of palliation. I believe thiis form of palliation should be continued for the following reasons:

(1) There may come a time in the future when we are able to define a patient through immunological or other screening tests who has a minimal amount of cancer, the site of which is unknown. I believe we can now assume from animal studies and studies of other cancers that in such a patient multiple drug chemotherapy will be curative. It is, therefore, essential that physicians maintain an interest and competence in the administrations and safeguards required in the utilization of multiple drug chemotherapy.

(2) The patient who is dying of cancer has usually become aware of so-called "new" drugs. These drugs do seem to subjectively make the patient more capable of accepting his very difficult situation and diminish the need for narcotics.

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## Subspecialty Examinations in Rheumatology Review Session

The American Rheumatism Association Section of The Arthritis Foundation is offering a Review Session in Rheumatology mainly for physicians wishing to take the subspecialty examinations for certification in Rheumatology being given for the first time this year by the American Board of Internal Medicine on October 17, 1972.

The Review Session will take place on Saturday, June 10, 1972 at the Fairmont Hotel in Dallas, Texas, in conjunction with the annual meeting of the American Rheumatism Association. The session has been arranged by a subcommittee of the ARA, chaired by Dr. Charles M. Plotz of Downstate Medical Center in Brooklyn, New York.

Registration fee for the session is $50.00 (including luncheon). Please send your reservation to: The Executive Secretary, American Rheumatism Association Section, The Arthritis Foundation, 1212 Avenue of the Americas, New York, New York 10036 no later than May 25, 1972, Make checks payable to The Arthritis Foundation.

## CLINICAL CENTER STUDY OF PATIENTS WITH MALIGNANT MELANOMA, SARCOMA OF SOFT TISSUE OR BONE

The cooperation of physicians is requested in the referral of patients with melanomas and sarcomas of soft tissue and bone for studies being conducted by the National Cancer Institute's Surgery Branch at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Needed are patients with primary tumors and those with limited metastases which are amenable to primary surgical treatment. Selected patients will be admitted to combined surgery, chemotherapy, and immunotherapy protocols.

Patients treated will receive adjuvant therapy according to criteria based on tumor anatomic location and histologic type. Immunologic studies will be performed preoperatively and at intervals postoperatively to monitor the effects of adjuvant therapy and provide sensitive means of followup for earlier detection of recurrent tumor.

Upon completion of their studies, patients will be returned to the care of the referring physician who will receive a summary of findings.

Physicians interested in having their patients considered for admission to these studies may write or telephone:

Alfred S. Ketcham, M. D.
Clinical Center, Room 10-N-116
National Institutes of Health
Bethesda, Maryland 20014
Telephone: 301-496-4164

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## CLINICAL CENTER STUDY OF PATIENTS WITH CANCER OF THE ORAL CAVITY, PHARYNX, LARYNX, OR PARANASAL SINUSES

The cooperation of physicians is requested in the referral of patients with cancer of the oral cavity, pharynx, larynx, or paranasal sinuses for studies being conducted by the National Cancer Institute's Surgery Branch at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Patients selected for admission and treatment will be included in an adjuvant-therapy protocol where the treatment modalities of surgery, irradiation, and chemotherapy will be combined in such a manner as to determine the feasibility of such a therapeutic approach and its potential for decreasing the incidence of local recurrence and metastases.

Post-treatment studies are planned which will include cooperative followup between the referring physician and the National Cancer Institute.

Physicians interested in having their patients considered for admission of these studies may write or telephone:

Alfred S. Ketcham, M. D.
Clinical Center, Room 10-N-116
National Institutes of Health
Bethesda, Maryland 20014
Telephone: 301-496-4164

# SOUTH CAROLINA MEDICAL ASSOCIATION

## HOUSE OF DELEGATES

## C. TUCKER WESTON, M D., SPEAKER

## ORDER OF BUSINESS

**Monday, May 15**

9:30 A. M. Call to Order
Invocation
Report of Credentials Committee
Opening Remarks by the President
Introduction of President-Elect
Announcement of Reference Committees
Presentation of Resolutions and Recommendations

10:30 A. M. Introduction of Officers and Guests of Woman's Auxiliary

**Reports of Officers**

The President
The President-Elect
The Chairman of Council
The Executive Secretary
The Secretary
The Treasurer
The Editor of the Journal
The Delegates to AMA

**Reports of Committees:**

(The reports of the Committees will have been published in the **Journal** and will not be read before the House. Any supplementary remarks by the Chairman will be heard at this time.)
Report of State Board of Medical Examiners
Report of the Executive Committee of the State Board of Health
Unfinished Business
New Business

3:00 P. M. **Meeting of Reference Committees**

(All members of the Association are invited to appear befort the Committees considering matters in which they are interested. Meeting places will be posted and announced.)

**Wednesday, May 17**

9:30 A. M. Call to Order
Report of Memorial Committee
Reports of the Reference Committees

11:30 A. M. **Annual Elections**

**Officers**

President-Elect
Vice President
Secretary
Treasurer

**Delegate to the A. M. A. (2-year term):**

The term of Dr. Thomas Parker expires December 31, 1972.

**Alternate Delegate to the A. M. A. (2-Year term):**

The term of Dr. Harrison L. Peeples expires December 31, 1972.

**Councilors (3-year terms):**

**First District** — The term of Dr. A. Richard Johnston expires. (1969)

**Fourth District** — The term of Dr. Donald G. Kilgore, Jr. expires. (1969)

**Seventh District** — The term of Dr. Michael Holmes expires. (1966)

**Eighth District** — A Councilor will be announced to fill the unexpired term of J. Harvey Atwill, Jr. (resigned) (being filled in the interim by Dr. Randolph D. Smoak, Jr.)

**Members of the Mediation Committee (3-year terms):**

**First District** — The term of Dr. Robert S. Solomon expires. (1966)

**Fourth District** — The term of Dr. William J. Bannen, Jr. expires. (1969)

**Seventh District** — The term of Dr. T. Marion Davis expires. (1966)

**Members of the Peer Review Committee (3-year terms):**

**First District** — The term of Dr. Thomas W. Messervy expires. (1971)

**Fourth District** — The term of Dr. Henry G. Howe, Jr. expires (1971)

**Seventh District** — The term of Dr. Wallis D. Cone expires. (1971)

**Member of the Benevolence Fund Committee (3-year term):**

The term of Dr. Ripon W. LaRoche expires. (1966)

**Members of State Board of Medical Examiners (4-year terms):**

**Sixth Congressional District** — The term of Dr. Harold S. Gilmore expires.

**Member-At-Large** — The term of Dr. Harold E. Jervey, Jr. expires.

**Hospital Advisory Council to State Board of Health (4-year term):**

The term of Dr. Henry C. Robertson, Jr. expires.

**Member of State Board of Nursing Examiners (5-year term):**

The term of Dr. Charles R. Holmes expires.

Selection of Place for 1975 Annual Meeting

Sine Die Adjournment.

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## BANQUET SPEAKER

Dr. Noah Langdale, Jr., President

Georgia State University

Atlanta, Georgia

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## SOC PAC LUNCHEON

Monday, May 15, 1:00 p.m.

Speaker — Hon. Strom Thurmond

## SCIENTIFIC PROGRAM

**May 16, 1972**

8:30 - 9:30 A. M. — BREAKFAST
(For General and Specialty Groups)
ORANGE ROOM — Dr. Robert Greenblatt — Endocrinology
YELLOW ROOM — Dr. Gordon McHardy — Gastroenterology
BLUE-GREEN ROOM — Dr. Ben Branscomb — Diseases of the Lung
Dr. Claude Frazier — Allergy
Dr. Paul Yu — Cardiology
Dr. William Cassebaum — Surgery

### GENERAL PROGRAM

**Blue-Green Room**

10:00 A. M.
Dr. Robert Greenblatt — Endocrinology of Sexual Behaviour
11:00 A. M.
Dr. Ben Branscomb — Management of Troublesome Pulmonary Symptoms
12:00 Noon
Dr. Paul Yu — The Treatment of Heart Failure 1972
12:40 - 1:10 P. M. — Question and Answer
1:10 P. M. — ALUMNI LUNCHEON — Everyone Invited —
First Floor Main Dining Room
2:30 P. M.
Dr. Gordon McHardy — Diarrhea Organic vs. Functional
Some Changing Concepts
3:30 P. M.
Dr. Claude Frazier — Errors to be Avoided in the Treatment of Asthma
4:10 - 4:30 P. M. — Question and Answer

### SPECIALITY PROGRAM

**Orange Room**

10:00 A. M.
Dr. Paul Yu — The Therapy of Cardiogenic Shock
11:00 A. M.
Dr. Gordon McHardy — Hiatal Hernia
Incidence vs. Significance
12:00 Noon
Dr. Robert Greenblatt — Progestational Agents
(Which ones to use on what occasions)
12:40 - 1:10 P. M. — Question and Answer
1:10 P. M. — ALUMNI LUNCHEON — Everyone Invited —
First Floor Main Dining Room
2:30 P. M.
Dr. Ben Branscomb — Interpretation of Arterial Blood Gases
3:30 P. M.
Dr. William Cassebaum — Rupture of Stomach
4:10 - 4:30 P. M. — Question and Answer

# SCIENTIFIC SPEAKERS

**Dr. Ben Vaughan Branscomb**



Dr. Branscomb graduated from the Duke University School of Medicine in 1947. He served an internship in the University of Chicago Clinics and was a Research Fellow in the Department of Pulmonary Physiology, Trudeau Foundation, Saranac Lake, New York. After further study at Vanderbilt Hospital in Tennessee, he became Director of the Pulmonary Disease Division of the Medical College of Alabama. At the present time he is serving as Alabama Professor of Medicine in Emphysema and Respiratory Diseases and as Director of Inhalation Therapy Technician Training Program, School of Community and Allied Health Resources, U.A.B.

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**Dr. Claude A. Frazier**



Dr. Claude A. Frazier received his M.D. degree from the Medical College of Virginia. He served internship at the Medical College of Virginia and had further training at Johns Hopkins. He had allergy training at Roosevelt Hospital in New York. Dr. Frazier is chairman and past-editor of the allergy section of the *Southern Medical Journal*. He is a fellow of the American College of Allergists, the American Academy of Allergy, and the American College of Chest Physicians. He serves as Regional Consultant to the Children's Asthma Hospital and Research Institute in Denver, Colorado. Dr. Frazier practices in Asheville, North Carolina, and has written several medical and nonmedical books and many articles dealing with allergy.

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**Dr. Robert B. Greenblatt**



Dr. Greenblatt holds the degrees of B.A., M.D., C.M., from McGill University, Montreal, Canada, and "Honoris Causa" from the University of Bordeaux, France. He has been associated with the Medical College of Georgia since 1935, holding the chair in Endocrinology since 1946. He is the author and editor of several books and has contributed over 400 scientific articles to the medical literature. Dr. Greenblatt has been awarded honorary memberships in the Obstetrical and Gynecological Societies of Alabama, Florida, Indiana, Kentucky, and many others. He is also a diplomate of the American Board of Obstetrics and Gynecology and an associate member of the Royal Society of Medicine.

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**Dr. William H. Cassebaum**

Dr. Cassebaum graduated from Cornell University Medical College in 1931, continuing his studies at the New Jersey Medical Center and Roosevelt Hospital. He has served as Director of Surgery at the New York Polyclinic Hospital and as the civilian consultant in Surgery to the Surgeon General, U. S. Army Hospital, Fort Jay Station Hospital, New York.

He is presently a consultant in surgery at the French and Polyclinic Medical School and Health Center, the Roosevelt Hospital in New York, the Bergen Pines Hospital in New Jersey, and the Union Hospital in the Bronx. He is also treasurer of the New York Academy of Medicine.

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**Dr. George Gordon McHardy**



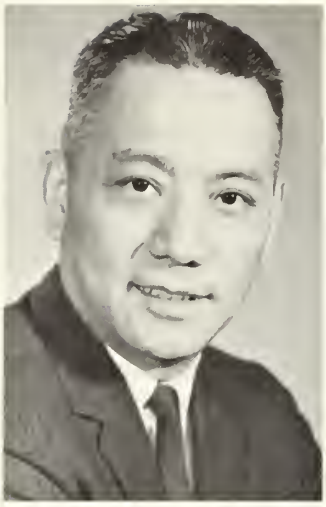
Dr. McHardy received his M.D. from Tulane University School of Medicine in New Orleans in 1936. He received further training at Mercy Hospital in New Orleans; at the University of Rochester, Strong Memorial Hospital, New York; Touro Infirmary, New Orleans; and Temple University, University of Pennsylvania, University of Rochester, and Tulane University. Dr. McHardy has been Clincial Professor of Medicine at Louisiana State University Medical School since 1959 and has been chief of the Division of Gastroenterology since 1960. He has been a member of numerous national and international medical societies and has served as President of the American Gastroenterological Association and the New Orleans Academy of Internal Medicine.

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## COMMITTEE ON SCIENTIFIC PROGRAM

**M. Gordon Howle, M. D., Chairman** ⟿
Lucien E. Brailsford, M. D., Spartanburg
Joseph C. Ross, M. D., Charleston
George R. Dawson, M. D., Florence
Joseph F. Flowers, M. D., Walterboro
A. H. Hursey, M. D., Hartsville
Walter Roberts, M. D., Columbia

**Dr. Paul N. Yu**



Dr. Yu received his M.D. from the National Medical College of Shanghai in 1939 and was the British Council Scholar to the United Kingdom from 1945 to 1947. He studied in the British Postgraduate Medical School in London, the London School of Tropical Medicine and Hygiene, and the Edinburgh Postgraduate Medical School. Dr. Yu has served as consultant in cardiology at Genesee Hospital, Rochester, New York; Veterans Administration Hospital, Bath, New York; Highland Hospital, Rochester, New York, Newark-Wayne Community Hospital, Newark, New York; and Frederick Thompson Hospital, Canandaigua, New York. He is a diplomate of the Royal College of Physicians and the American Board of Internal Medicine. He is President-Elect of the American Heart Association.



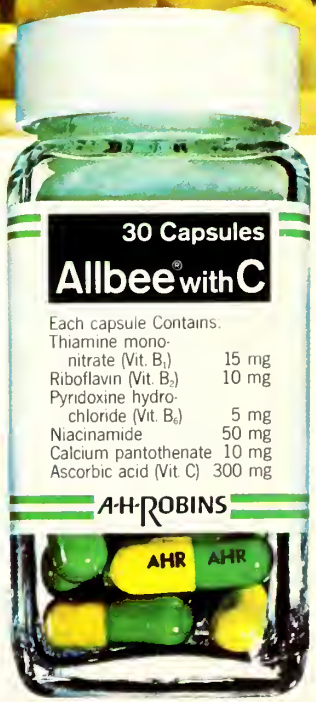



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Mrs. William P. Turner
President

# WOMAN'S AUXILIARY
# TO THE
# SOUTH CAROLINA MEDICAL ASSOCIATION

1971 - 72

Headquarters for the Auxiliary will be the **Thunderbird Motor Inn.** Registration, meetings, and entertainment for ladies will be at the **Thunderbird.**

## SCHEDULE

**Monday, May 15th**

| | |
|---|---|
| 10:00 A.M. | Executive Board Meeting — Gamecock Room |
| 12:30 P.M. | Open Executive Board Luncheon — Thunderbird Dining Room |
| 2:00 P.M. | Round Table Conference for County Presidents and Presidents-Elect — President's Suite |
| 3:00 P.M. | Display of Handcrafts<br>Program — Mrs. Ginny Thompson (The Hammock Shop) |

**Tuesday, May 16th**

10:00 A.M. House of Delegates Meeting — Gamecoek Room

12:30 P.M. Memberhip Luncheon — Mrs. G. Prentiss Lee, President, Woman's Auxiliary to the American Medical Association, guest speaker — Thunderbird Dining Room

2:30 P.M. Post-Convention Exeeutive Board Meeting, Mrs. J. Ray Ivester, presiding — Gameeock Room

Mrs. Harry C. Tiller and Mrs. William G. Armstrong of Georgetown are eonvention ehairmen.

Mrs. Strom Thurmond will be a guest speaker.

Members-At-Large of the Auxiliary are invited to all our functions and the wives of speakers for the seientific session of the Association are most welcome as guests.

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# REPORTS OF COMMITTEES

### Advisory Committee to the Crippled Children's Society

There has been no occasion during the year for any real activity on the part of this committee, which acts as a standby group to be used whenever the occasion arises in the activities of the Crippled Children's Society. The annual meeting of the committee will be held at the time of the convention of the Association in May.

Joseph I. Waring, M. D., Chairman

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### Advisory Committee to the Woman's Auxiliary

No formal meeting has been held. Advice has been requested and given over the phone on several occasions. Relations between our two organizations remain cordial.

Thomas Parker, M. D.
William P. Turner, M. D.

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### Committee of Industrial Medicine

At our last committee meeting in 1970, we met with the representatives of the State Chamber of Commerce and formulated an eight point proposal of changes in South Carolina Workmen's Compensation Laws. This was partially revised by the Chamber of Commerce during the year and submitted to the legislature. To date nothing has come out of Committee, either the House or the Senate. Our initial proposal, briefly, was (1) increase death benefits, (2) increase weekly benefits, (3) broaden the range of coverage to include more people under the Workmen's Compensation Act, (4) consider back injury as a "specific" under the law, similar to the way herniae are handled at this time, (5) modify the disfigurement allowances under the law to a less liberal approach, (6) activate the second injury section of the law, (7) recommend a three man appeal board, separate them from other Commissioners, be established, and (8) recommend that Commissioners be reappointed every six years by the Governor and removed for a cause.

At our September meeting, 1971, new officers of the Committee elected were: Chairman — Dr. W. J. Goudelock, Easley, S. C.; Vice-Chairman — Dr. David Baxley, Charleston, S. C.; Secretary — Dr. James Dusenberry, Clemson, S. C. New committee members — Dr. Harold H. Jeter of Florence and Dr. James Dusenberry of Clemson were welcomed.

It was agreed that meetings of this Committee be held quarterly on the second Wednesday of each quarter in the Blue Cross-Blue Shield Building in Columbia.

The December meeting of 1971, was a joint supper meeting held in Columbia with the Industrial Commissioners. This type of meeting has been very fruitful in the past and this one was no exception.

At our next meeting in March of 1972, Mr. John E. Logan, Assistant Professor of Business Management at the University of South Carolina will meet with us to discuss South Carolina's Workmen's Compensation Act as it



**Edward F. Parker, M.D.**
**President-Elect**

compares with laws in adjacent states. He has made a rather complete study and has recently published "An Analysis of Workmen's Compensation: South Carolina and the United States".

It is hoped that our Committee can be instrumental in effecting suitable legislation to improve our Workmen's Compensation Laws in the near future.

W. J. Goudelock, M. D., Chairman

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**Committee on Constitution and By-Laws of the Medical Association of South Carolina**

1. Only one item concerning the Constitution and By-Laws has been brought to this Committee during the past year. This is a provision in Section II of Chapter IX of the By-Laws. This Section requires that all County Societies file the lists of non-affiliated physicians with the Executive Secretary each year. This Section also requires that Societies pay dues to the State Society before April 1st. of each year. Under this Section their Delegates have no right to be seated unless the above requirements are met. This rule has never been enforced.

The Executive Secretary would very much like to have a list of non-affiliated physicians in each County. It would help considerably in recruiting new members for our Association. The Executive Secretary would also like to have all dues paid before April 1st.

Therefore be it resolved by the Committee on Constitution and By-Laws that the Executive Secretary's office notify each County Society of this By-Law, and also recommend that a conscientious attempt be made to enforce these By-Laws as written. If it appears, after one year that these By-Laws are unenforcible the Committee on Constitution and By-Laws will recommend that a change be made so that a provision which is not only enforcible but that is useful can be placed in the By-Laws.

J. Gavin Appleby, M. D., Chairman

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**Committee on Eye-Bank**

The South Carolina Eye-Bank still continues to maintain its membership in the Eye-Bank Association of America.

We are extremely proud this year that Mr. J. F. Watson, of Camden, former President of the S. C. Eye-Bank, is now President of the Southeastern Region of the Eye-Bank Association of America and is a member of the Board of Directors of The Eye-Bank Association of America. Clay W. Evatt, Jr., M.D., of Charleston and Mr. W. H. Goldfinch, Conway, are members of the Advisory Committee to the Board of the Eye-Bank Association of America.

During the year 1971, 3,333 additional persons pledged their eyes for use after death by the Eye-Bank.

During 1971 the Eye-Bank provided 80 eyes to surgeons for corneal transplant surgery or other needs.

John H. Young, M. D., Chairman

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**Committee on Liaison With Allied Professions**

There has been no activity during the past year.

H. B. Mays, M. D., Chairman

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**Committee on Medical Services**

This full committee did not meet in 1971; however, as representative from this committee to the S. C. State Board of Health's Advisory Council on Emergency Medical Care, it can be stated that this council has been extremely active in emergency medical care facets including legislation, courses for ambulance personnel, drawing up standards for ambulance vehicles and the equipment to go on ambulances and in the emergency rooms.

A summary of the accomplishments of this committee will be drawn up and submitted to the Journal of the South Carolina Medical Association so that physicians will know of the council's actions. Also, the Subcommittee on Emergency Medical Care of the Committee on Medical Services will be brought together to discuss and study the above summaries of the council's actions and goals.

Edmund R. Taylor, M. D.

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**Committee on Medicine and Religion**

The committee organized a two-hour panel

discussion as a part of the annual meeting of S. C. Medical Association in Myrtle Beach. An outstanding theologian of Duke Divinity School presented a provocative paper on the subject of abortion as a Life and Death Issue followed by three physicians and three clergymen from three areas of the State who responded to the presentation demonstrating a wide range of viewpoint. The goal set by the committee, i.e. facilitating dialogue between physicians and clergymen appeared to have been realized by the interest shown, the attendance and questions put to panel members. It is hoped that dialogue has and will continue in the local societies and hospitals and through consultation over individual persons in need.

The committee plans to keep before the S. C. M. A. members information on Medicine and Religion through the help of AMA Department of Medicine and Religion during annual meetings and through regional committee members in contact with the local societies. The committee works closely with the Christian Action Council.

Robert F. Goldie, M. D., Chairman

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**Committee on Mental Retardation**

The Committee on Mental Retardation has no formal report for this year.

Robert C. Brownlee, Jr., M. D., Chairman

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**Committee to Negotiate a "Fee for Service" Policy With Blue Shield Corporation**

Our first meeting was held in August, 1970, and we continued to hold meetings at monthly or bi-monthly intervals subsequently as seemed indicated. On July 9, 1971 our final meeting was held, at which time a complete fee schedule, covering all specialties, subspecialties, general practice, etc. was submitted to the representatives from Blue Shield. I have been in contact with them since, most frequently with Mr. Jack Henley.

I am, of course, aware of the problems involved in the Blue Shield management, with the change in director, etc. that occurred after the last annual meeting of The S.C.M.A.; however, I am disturbed that this report has not been submitted to the Board of Trustees of Blue Shield for any action they might like to take on it. From my discussion with Mr. Henley, it would appear that they have been waiting for Blue Shield to come up with some national type of fee schedule, and there has, also, been considerable difficulty in getting the Blue Shield representatives to agree to accept the Coding Changes recommended by the committee. While I was chairman of this committee, the other members, particularly those representing the general surgical and surgical sub-specialties spent many, many hours in negotiating, discussion, etc. both with members of the committees, and Blue Shield representatives. All of the members of the committees worked hard and diligently in preparing this report, and I am distressed that it has not yet been presented to the Blue Shield for action. From discussion with Mr. Henley I do not get any assurance that it will be presented in the near future.

Charles R. Holmes, M. D., Chairman

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**Maternal Health Committee**

This committee is published on Page ... in the scientific section of the April *Journal.*

E. J. Dennis, M. D., Chairman



**Forde A. McIver, M.D.**
**Vice President**

## Executive Committee
## S. C. State Board of Health

The demand for services provided by the State Board of Health has continued to increase. Each year we realize that the expectations of the people for health care are greater than they were before and that South Carolinians are expecting more and better health services to be made available to them, as reflected in our statistics. The number of home health visits increased from 32,857 in 1968 to 103,548 in 1971, an increase of 215 per cent; the number of new patients admitted to prenatal clinics increased by 31 per cent from 3077 in 1970 to 4034 in 1971, and the number of clinic visits these patients made increased by 48 per cent from 12,880 in 1970 to 19,058 in 1971; family planning services provided increased from 17,112 in 1970 to 25,000 in 1971, an increase of 46 per cent; tuberculosis increased 8.3 per cent from 618 new active cases in 1970 to 669 new active cases in 1971; and new cancer cases admitted to the cancer registry increased 5.1 per cent from 4848 in 1970 to 5093 in 1971. These demands for more and better services constantly require us to expand our health services to the people and to redefine our role in the health care delivery system.

Realizing the need for closer communication between the State Board of Health and the South Carolina Medical Association, we were pleased to join in an exchange wherein Dr. Harold P. Hope, chairman of the Council of the S. C. Medical Association, attends the meetings of the Executive Committee of the State Board of Health and Dr. Aycock attends meetings of the Council.

The year started off as an interesting one from the legislative viewpoint. The problems related to environmental protection were not completely settled to the satisfaction of the State Board of Health, but they were further clarified. One matter still of great concern to us is the area of surveillance of rivers and streams for those factors which are significant to health, such as heavy metals. The Pollution Control Authority continues to inspect the parameters which affect fish and not those which affect health.

We have reached another milestone in the history of preventive medicine where the risk of smallpox vaccination exceeds the risk of the disease, and therefore we recommend the discontinuance of the indiscriminate vaccination against smallpox.

In accord with the new law, membership on the Advisory Council for Comprehensive Health Planning was increased from 25 to 33 by adding representatives of the Veterans' Administration, the South Carolina Regional Medical Program, the S. C. Association of Optometrists, the Association of Podiatrists, and four new consumer positions.

Of major significance is the list of ten priorities for raising the level of health of South Carolinians, which were identified by the Advisory Council for Comprehensive Health Planning and approved by the Executive Committee. They are:

1. That comprehensive health planning be pursued throughout South Carolina with vigor;
2. That the most severe effects of hunger and malnutrition be eliminated in South Carolina by 1974;
3. That an immediate beginning be made toward shifting the emphasis of health care in South Carolina from crisis intervention and sporadic care to health maintenance;
4. That a comprehensive family planning program be developed;
5. That the mental health program be expanded through support for the Department of Mental Health's developmental plan, which emphasizes new programs and facilities for treating alcohol and drug addiction, the modification of the state hospitals to a system of mental health care based on a high level of systematic linkage between well-defined hospital units (villages) and a specific community mental health area(s), the extension of services through community mental health centers, and continued advancements in manpower development and utilization;
6. That specific and direct instruction in health, including sex education, of which family life education and reproductive responsibilities are essential phases, be required as a separate subject area in the public system by the South Carolina Depart-

*"The history of science, and in particular the history of medicine... is... the history of man's reactions to the truth, the history of the gradual revelation of truth, the history of the gradual liberation of our minds from darkness and prejudice."*

*– George Sarton, from "The History of Medicine Versus the History of Art"*

# Should nongovernment scientists and physicians play a role in drug regulation?

# Opinion

**Results of a questionnaire to 7000 physicians:**

82.8%
**Physicians should play a role**

78.3%
**Independent scientists should play a role**

69.8%
**Medical academicians should play a role**

Opinion & Dialogue

# Dialog

## Should nongovernment scientists and physicians play a role in drug regulation?

### Doctor of Medicine

**Herbert L. Ley, Jr., M.D., M.P.H., Formerly Commissioner, F.D.A. (1968-1969) Currently Medical Consultant**

In order for drug regulation to be effective, participation in the regulatory process from nongovernment physicians and scientists must be encouraged. Without such involvement, there will continue to be a high degree of controversy surrounding any regulations promulgated by the Food and Drug Administration.

There are two areas in which participation and communication by nongovernment physicians and scientists could significantly improve the process of regulation. First, scientists and physicians throughout the country could become involved in consulting relationships with the Food and Drug Administration in important scientific areas while regulatory policies are being evolved. If nongovernment professionals could bring their expertise and experience to bear early in the decision-making process, they would have less reason to criticize the final outcome.

Secondly, practicing physicians, academic physicians, and academic-based scientists could make it their business to comment on proposed regulations appearing in the Federal Register. Ideally, a system could be instituted whereby medical, scientific and technical people could see the Federal Register regularly, and provide the Food and Drug Administration with a body of opinion that has so far gone unheard. The FDA is caught among pressures from industry, Congress, the Presidential Administration and consumers. It should also feel pressures from practicing physicians and scientists.

In order to become more involved in these stages of the drug regulatory process, nongovernment physicians and scientists should begin to exercise their influence through their respective professional organizations,



state and national medical societies, and specialty groups. Logically, a letter from these organizations representing a collective opinion has far greater weight in the regulatory process than individual letters. If the Food and Drug Administration receives opinions from these organizations early, before a regulation gets into the Federal Register, they are in a good position to respond with further study and review. Without such dissenting opinions, there is very little incentive to make changes in proposed regulations.

One instance in which practitioners did influence drug regulatory affairs in this way is the recent controversy that arose over the legitimacy of drug combinations. The strong opinion of practitioners on the value of such medication in clinical practice played a very prominent role in making the Food and Drug Administration modify its rather restrictive policy.

Another way in which practitioners can effectively influence drug regulations is by working with drug manufacturers conducting clinical trials of chemotherapeutic agents. When a drug is rated other than effective it may only mean that there is a lack of controlled clinical evidence as to efficacy. Thus, physicians might offer to conduct clinical studies that could help keep a truly effective drug in the marketplace. The treatment of diseases such as diabetes and angina are areas where the practitioner can aid in clinical studies because patients suffering from these diseases are rarely found in the conventional hospital setting.

By working with ethically and scientifically sound study designs in his everyday practice, the practitioner could begin to play an important part in determining official ratings on drug efficacy.

Nongovernment physicians and scientists and the FDA should also improve their lines of communication to the public. The medical community must develop a voice every bit as loud as that of the consumerists, the press, and others who sometimes criticize without complete information. If not, much of wh
the medical communi
*and* federal regulators
will often be represented
simplistic and somewh
misleading terms.

One illustration of t
misuse of the media in tl
regard is the recall of an
coagulant drugs sever
years ago. This FDA acti
was given publicity by t
press and television th
went far beyond its pro
able importance. The res
was a very uncomfortal
situation for the prac
tioner who had patier
taking these medicatio
Since the practitioner a
pharmacist had not be
informed of the action
the time it was publiciz
in most states they w
deluged with calls fr
worried patients.

The practitioner can
tempt to solve these pr
lems of inadequate comm
nication in several wa
One would be the creati
of a communications li
in state pharmacy societi
When drug regulation ne
is to be announced, the
ciety could immediate
distribute a message to
ery pharmacist in the sta
The pharmacist, in tu
could notify the physici
in his local community
that he and the physic
could be prepared to
swer inquiries from p
tients. Another appro
would be to use prof
sional publications t
practitioner receives.

All of this leads back
my opening contention:
drug regulation is to be
fective, timely, and rela
to the realities of clini
practice, a better metho
communication and fe
back must be developed
tween the nongovernm
tal medical and scient
communities and the re
latory agency.

# ıe

## Maker of Iedicine

Henry W. Gadsden,
man & Chief Executive
cer, Merck & Co., Inc.



my opinion, it is the nsibility of all physi- and medical scientists e whatever steps they are desirable in a law- regulation-making ss that can have far- ing impact on the ce of medicine. Yet events in the recent ndicate that this is appening. For exam- t is apparent from efficacy studies that AS/NRC panels gave consideration to the ce that could have provided by practic- hysicians.

re are several current pments that should ase the concern of ing physicians about gulatory affairs. One proliferation of mal- e claims and litiga- Another is the effort ernment to establish lative efficacy of This implies that if sician prescribes a ther than the "estab- drug of choice, he e accused of practic- mething less than lass medicine. It come perilously federal direction of edicine should be ed.

der to minimize this f arbitrary federal , a way must be o give practitioners oice and represen- tation in government affairs. Government must be caused to recognize the essentiality of seeking their views. One of the difficulties today, however, is that there is no way for concerned practitioners to participate in the early stages of decision-making processes. They usually don't hear about regulations until a proposal appears in the Federal Register, if then. By that time a lot of concrete has been poured, and a lot of boots are in the concrete.

Physicians in private practice, and particularly clinicians, should press for representation on the advisory committees of the Food and Drug Administration, joining with academic and teaching hospital physicians and scientists who are already serving. Though practitioners may not have access to all available information, the value of their clinical experience should be recognized. Clinicians, for example, rightly remind us that difficulty in *proving* precise effects does not necessarily mean a drug is ineffective.

Unless practitioners are more involved in drug regulations, it will be increasingly difficult for the pharmaceutical industry and scientists elsewhere to make optimal progress in drug development. The benefit/risk ratio must be re-emphasized, and as part of this it must be acknowledged that benefit can come from the judgments of medical science as a whole. Even this concept, unfortunately, is not always accepted in drug regulatory processes. For example, if current medical opinion holds that an excess of total lipids and cholesterol in the blood is probably predisposing to atherosclerosis, and if a drug is discovered which reduces total lipids and cholesterol, the drug ought to be accepted *prima facie* as a contribution to medical science . . . until someone disproves the theory. The sponsor should not have to prove the theory as well as to develop and test the drug.

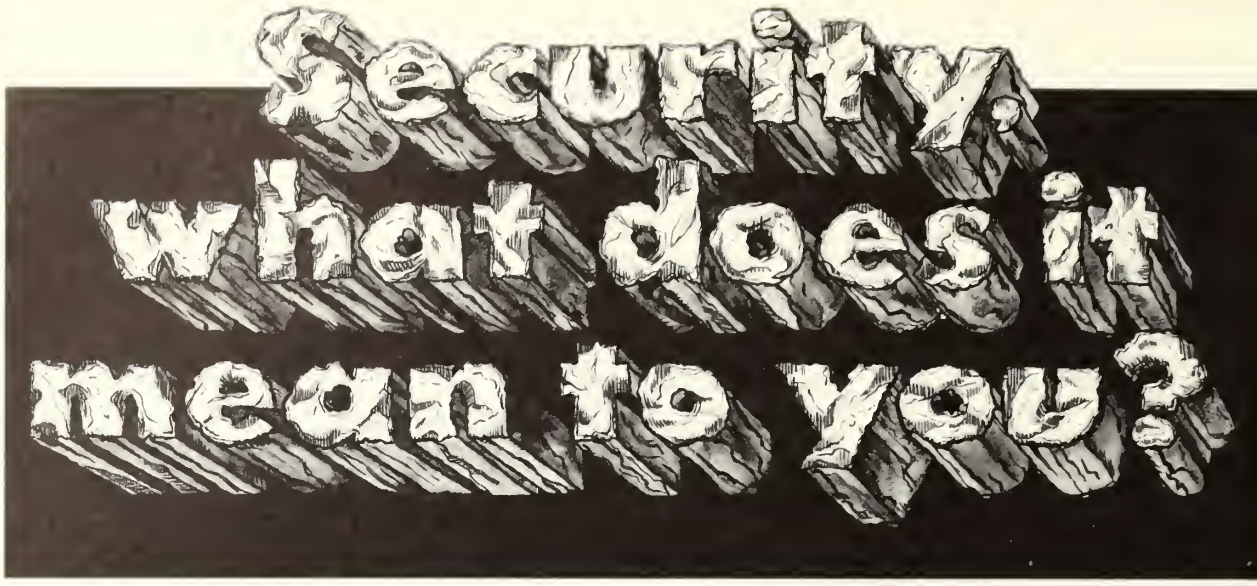
I feel a major new effort must also be made to erase the feeling of mistrust of medicine and of medicines that seems to be growing in the public consciousness. Triggered primarily by strident announcements in Washington, people are reading and hearing confidence-shaking things almost continuously. Although challenge and awareness are essential to medical advancement, our long-term goal is constructively to build, not destroy. This means strengthening patient-physician relationships based on mutual confidence and trust. And in matters of health policy, it means working toward participatory rather than adversary proceedings—where everyone with an interest and a capacity to contribute has an opportunity to be heard . . . and, if that opportunity is not spontaneously afforded him, he may seek it.

## Opinion & Dialogue

**What is your opinion, doctor?**
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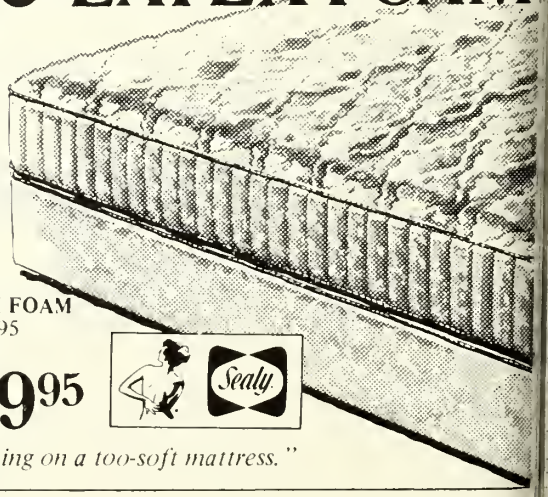
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to move,
and the Latin **sedatus**,
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ment of Education;

7. That the Medical University of South Carolina reorient its training of health manpower to support the concept of health maintenance;

8. That nursing home and boarding home services for the aged be closely monitored by the appropriate state agencies;

9. That all public water systems in South Carolina contain a minimum of 0.7 milligrams of fluoride per liter of water;

10. That injury control be recognized as a statewide goal and that the public school system be used as a medium for encouraging injury control.

Task force reports on facilities, services, and resources were published and widely distributed in 1971. Another task force studying environmental health will make its final report during 1972.

Compilation of a *Guide to Personal Health Services in South Carolina* has been completed, and distribution is anticipated early in 1972.

During 1971 areawide health planning councils were established in the Upper Savannah, Wateree, and Waccamaw districts, and active health planning councils now exist in all the state's ten planning districts except the Lowcountry.

The Bureau of Community Health Services, headed by Dr. Hilla Sheriff, works closely with all other bureaus and serves as a coordinating unit for the planning, staffing, and delivery of health services on the district and local level. Staffing each district with supervisory personnel continues to be a goal. Nine of the 13 districts have full-time medical directors, 11 have nursing directors, 12 have environmental supervisors, and all have sanitary engineers.

As a result of district activities, new programs such as diabetic screening, increased family planning efforts, teenage prenatal clinics, and increased activity in environmental health programs are being initiated.

Nurses are providing the first level of health care for infants and young children in lieu of physicians. This includes a thorough physical appraisal, screening test, counseling and anticipatory guidance to parents, and referral



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**IMPORTANT NOTE: *In vitro* sulfonamide sensitivity tests are not always reliable. The test must be carefully coordinated with bacteriologic and clinical response. When the patient is already taking sulfonamides, follow-up cultures should have aminobenzoic acid added to the culture media. Currently, the increasing frequency of resistant organisms is a limitation of the usefulness of antibacterial agents including the sulfonamides, especially in the treatment of chronic and recurrent urinary tract infections.**

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**Warnings:** Safety of sulfonamides in *pregnancy* has not been established. Sulfonamides will not eradicate group A streptococci. Deaths associated with sulfonamide administration have been reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Clinical signs such as sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. Complete blood counts and urinalyses with careful microscopic examination should be performed frequently during sulfonamide therapy.

**Precautions:** Use with caution when impaired renal or hepatic function, severe allergy or bronchial asthma is present. In glucose-6-phosphate dehydrogenase-deficient individuals, hemolysis (frequently a dose-related reaction) may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias:* Agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia, methemoglobinemia. *Allergic reactions:* Erythema multiforme (Stevens-Johnson syndrome), generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia, allergic myocarditis. *Gastrointestinal reactions:* Nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis, stomatitis. *C.N.S. reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, somnia. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L.E. phenomenon have occurred with sulfonamide therapy. Sulfonamides bear certain chemical similarities to some goitrogens, diuretics and oral hypoglycemic agents. Goiter production, diuresis and hypoglycemia have occurred rarely in patients receiving sulfonamides. Cross-sensitivity may exist with these agents.

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of children with abnormalities for pediatric care. In addition, nurses provide services to prenatal and family planning patients, direct services to school children, and consultation services to teachers.

Nutritional services are unevenly distributed throughout the state. Limited clinic counseling in 31 counties is restricted to maternal and child care programs. In spite of the limited staff, 7328 individuals received nutrition counseling in 1970-71.

The medical nutrition program which provides food for mothers, infants, and children of low income families is conducted in five counties. In fiscal 1971 an average of 3815 persons were served monthly, representing approximately 82.1 per cent of the need for services of this type in these counties.

The demand for medical social services has increased, and additional social workers have been employed in specialized program areas of home health services, crippled children, maternal and infant care, and family planning. However, it has not been possible to find qualified social work personnel to fill all vacancies due to the limited supply of manpower in the state and barriers to employment in the personnel classification system. The Board of Health participates in increasing the availability of social work manpower, providing field placements for social work students on the graduate and undergraduate level, and through training stipends for selected students.

During the fiscal year, 29 of the local health departments participated in the volunteer program. This program is designed to seek participation of volunteers in local health and health-related activities or programs. There were 881 volunteers working in the areas of children and youth, maternity, family planning, pediatrics, immunization, school health, crippled children, adult health, home health, and others.

A total of $2,921,000 in Hill-Burton funds was allocated to 16 construction or modernization projects, with 1,666 new beds being programmed in the 23 active projects using federal funds, and 758 beds being added in 18 non-federal projects. A total of 33 franchising applications were processed, with 26 certificates of need being issued, five facilities being exempted, and two certificates being denied. In 1971, there were 233 facilities licensed, including 95 hospitals, 90 nursing care facilities, and 48 intermediate-care facilities.

In December licensing of persons who fit and sell hearing aids in South Carolina was begun, and the Board is to administer examinations and make periodic inspections of equipment in this program.

In 1971 there were 73 hospitals qualified for full participation in the Medicare and Medicaid programs, with four others qualified to provide emergency services. The number of certified nursing home beds was reduced to 4978, as many were converted to intermediate care. Consultation visits made to hospitals number 75, with 321 being made to extended care facilities, and 369 to skilled nursing facilities.

South Carolina physicians prescribed and directed home care for over 5236 persons in 1971, with 67 per cent of these homebound persons being 65 or over. Heart disease, cancer, stroke, diabetes, and fractures were the most common diagnoses, and patients under 65 had a variety of chronic and infectious diseases, mental and terminal illness, and short-term surgical conditions. Many had complex health problems, including 11 on home dialysis.

The over-5236 homebound patients received 103,548 visits last year, an average of 19.8 visits per patient per year. The average length of time during which the patients were served was 20.2 weeks. Most patients require only nursing service; however, increasing numbers receive physical therapy, speech therapy, medical social services, and occupational therapy as prescribed by the attending physician.

The steady growth of the home health services program is summarized as follows:

| | 1967 FY | 1968 FY | 1969 FY | 1970 FY | 1971 FY |
|---|---|---|---|---|---|
| New patients admitted | 631 | 1,364 | 2,141 | 3,112 | 4,106 |
| Number of visits to homes | 11,439 | 32,857 | 62,380 | 95,274 | 103,548 |

The number of physicians ordering home care for their patients has increased each year. In addition, 70 doctors serve on home health service advisory groups and participate in inservice education for nurses and other home health workers.

After the General Assembly revised the drug laws, we are now responsible for registration, inspection, and investigation of all persons legally entitled to manufacture, distribute, dispense, administer, or possess controlled drugs. We have registered over 3700 persons authorized to handle drugs, inspected 200 of them, and have charged 20 violations, chiefly for forgery of prescriptions. As a result of the stricter laws governing controlled substances, there has been an increase in prescription forgeries and burglaries of pharmacies, doctors' offices, and drug manufacturers. Over five million dosage units of controlled substances have been stolen in the last six months of 1971.

The number of patients admitted to prenatal clinics increased during 1970-71 by 31 per cent, while the number of clinic visits increased by 48 per cent. An analysis of the new patients served in prenatal clinics reveals that 68 per cent were in the age group 15-24, with 37 per cent in the 15-19 age group. Emphasis will continue to be placed on maternity clinic services for teenage patients to help them with their complex problems, i. e., unwanted pregnancies, unwed mothers, infant care, continuing their education, etc.

Maternity and family planning clinics in the local health units provided 19,124 Papanicolaou smears, 49 biopsies, and 40 conizations, with 24 patients diagnosed as having cancer. In some areas prenatal care and delivery service for low-income patients are critical.

Child health conferences were expanded from 38 to 42 counties, and 12 districts had pediatric clinics. Even with a 9.7 per cent increase in the number of patients seen in child health clinics, it is estimated that only about 22 per cent of all children in the state needing such service are actually receiving the service.

Family planning services through the local health departments continue to be available in every county throughout the state with approximately 25,000 women receiving these services during the year. A state-level family planning staff was created to expand family planning services both in terms of quantity and quality and South Carolina was the first state in the southeast region to receive funding for a statewide family planning project.

Special funds were provided to pay for sterilizations for selected medically indigent patients, and in a four-month period 155 patients had received sterilizations. Due to a shortage of funds, this program has been curtailed.

The Child Evaluation Clinic was relocated at State Park Health Center, and Dr. Dee C. Breeden was employed as medical director in October.

Services were provided for 7175 patients in the crippled children's program, with 100 more patients receiving hospitalization than did during the previous year. The number of clinic visits totalled 17,046, a 10 per cent increase during the year.

The Columbia Crippled Children's Clinic was moved to the State Park Health Center to provide much-needed additional space for patient and family counseling and for supportive services such as social work, nutrition, speech, hearing, and physical therapy. The establishment of the Greenwood Crippled Children's Clinic brought orthopedic and pediatric services closer to the patients living in the six counties in the Upper Savannah Health District.

Due to the high cost of hospitalization (average daily cost $95.00), no increase in funds, larger number of patients accepted on the program, etc., within the first 4½ months of this fiscal year hospital funds were depleted to the point that it was necessary to discontinue approval of hospital admissions. It also became necessary to cut back on the purchase of braces, appliances, etc.

It is not anticipated that the financial situation will improve to any great extent next fiscal year, unless additional funds are appropriated for the hospitalization of handicapped children. Plans are under way for a special conference with clinic physicians to discuss and determine program policies necessitated because of the shortage of funds.

In the dental health program 20,356 patients were seen during the year, almost twice the number of the previous year.

Through the activities of the 11 state-aid cancer clinics 5093 new cases were added to the cancer registry—2245 males and 2848



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**Action:** CANDEPTIN Vaginal Ointment, Vaginal Tablets, and VAGELETTES Vaginal Capsules possess anti-monilial activity.
**Indications:** Vaginitis due to Candida albicans and other Candida species.
**Contraindications:** Contraindicated for patients known to be sensitive to any of its components. During pregnancy manual Tablet or VAGELETTES Capsule insertion may be preferred since the use of the ointment applicator or tablet inserter may be contraindicated.
**Caution:** During treatment it is recommended that the patient refrain from sexual intercourse or the husband wear a condom to avoid re-infection.
**Adverse Reaction:** Clinical reports of sensitization or temporary irritation with CANDEPTIN Vaginal Ointment, Vaginal Tablets or VAGELETTES Vaginal Capsules have been extremely rare.
**Dosage:** One vaginal applicatorful of CANDEPTIN Ointment or one Vaginal Tablet or one VAGELETTES Vaginal Capsule is inserted high in the vagina twice a day, in the morning and at bedtime, for 14 days. Treatment may be repeated if symptoms persist or reappear.
**Available Dosage Forms:** CANDEPTIN Vaginal Ointment is supplied in 75 gm. tubes with applicator (14-day regimen requires 2 tubes). CANDEPTIN Vaginal Tablets are packaged in boxes of 28, in foil with inserter—enough for a full course of treatment. CANDEPTIN VAGELETTES Vaginal Capsules are packaged in boxes of 14 (14-day regimen requires 2 boxes.)
Store under refrigeration to insure full potency.
Federal law prohibits dispensing without prescription.
**References:** 1. Olsen, J.R. Journal-Lancet 85: 287 (July) 1965. 2. Giorlando, S.W. Ob/Gyn Dig. 13: 32 (Sept.) 1971 3. Decker, A. Case Reports on File, Medical Department, Julius Schmid. 4. Giorlando, S.W., Torres, J.F., and Muscillo, G.. Am. J. Obst. & Gynec. 90: 370 (Oct. 1) 1964. 5. Lechevalier, H. Antibiotics Annual 1959-1960. New York, Antibiotica Inc., 1960. pp. 614-618. 6. Friedel, H.J. Maryland M.J., 15:36 (Feb.) 1966.
**Julius Schmid Pharmaceuticals**
423 West 55th Street
New York, New York 10019

**CANDEPTIN®**
**(candicidin)**
**Vaginal Tablets**
**Vaginal Ointment**
**and VAGELETTES™**
**Vaginal Capsules**

females. As one of our major aims is to promote early diagnosis, we were encouraged that 53.4 per cent of all cases reported were localized in stage at time of diagnosis—48.9 per cent males and 56.9 per cent females. Nearly 800 clinic patients were hospitalized for diagnosis and/or treatment with the average stay in the hospital being 11 days at average cost per hospital day of $60.25. New patients numbering 1230 and old patients numbering 4272 were seen in the cancer clinics in 18,456 clinic visits, and they received over 23,000 outpatient diagnostic services and treatments.

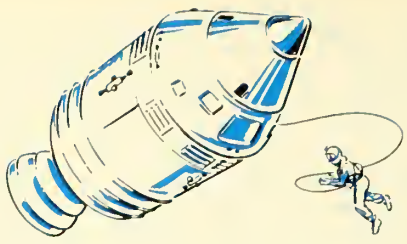
The Regional Medical Program—sponsored cervical cytology project completed 32 months of operation on June 30, 1971, with over 25,000 Papanicolaou smears from 16,800 women being examined. The tri-county area of Darlington, Florence, and Marlboro was chosen because deaths from cervical cancer were relatively high—11 per cent of deaths in South Carolina from carcinoma of the cervix while having only 6.7 per cent of the female population. Sixty cases of cancer of the cervix were found, and these received immediate treatment. Seventy physicians participated in the project, and for over 50 per cent of the women it was their first Pap smear.

The cancer detection clinic in Kershaw County examined 250 women between the ages of 18 and 78 years, and 180 abnormalities were discovered including skin and cervical cancer.

As no funds are available for hospitalization of heart clinic patients through the State Board of Health, the nine heart clinics function primarily as an evaluation, diagnostic, and follow-up facility. Patients needing catheterization, surgery, etc., are referred to the Medical University Hospital Heart Clinic which we subsidize financially.

Heart clinic cases having cardiac catheterization numbered 438, angiograms 436, coronary arteriograms 87, cardiac surgery 203. A total of 2291 patients (849 new and 1442 old) were seen in the heart clinics, and these patients made 3446 clinic visits.

Prophylactic medication was provided to 550 medically indigent patients with congenital heart disease or rheumatic fever, an in-



*Man in space, now fait accompli, re-emphasizes the importance of Uro-Phosphate therapy. Research into the effect of space travel on the astronaut reveals that weightlessness causes loss of bone calcium. As the bones are required to bear less and less of the weight of the body they lose calcium, increasing the calcium content of the urine. When physical activity is reduced, the acidity of the urine should be adjusted to keep increased calcium in solution . . . . a prophylaxis to prevent kidney or bladder calculi.*

# Uro-Phosphate®

*NOW A SUGAR-COATED TABLET*

*Each tablet contains:* METHENAMINE, *300 mg.;* SODIUM ACID PHOSPHATE, *500 mg.*

Uro-Phosphate gives comfort and protection when inactivity causes discomfort in the urinary function. It keeps calcium in solution, preventing calculi; it maintains clear, acid, sterile urine; it encourages complete voiding and lessens frequency when residual urine is present.

Uro-Phosphate contains sodium acid phosphate, a natural urinary acidifier. This component is fortified with methenamine which is inert until it reaches the acid urinary bladder. In this environment it releases a mild antiseptic keeping the urine sterile.

Uro-Phosphate is safe for continuous use. There are no contra-indications other than acidosis. It can be given in sufficient amount to keep the urine clear, acid and sterile. A heavy sugar coating protects its potency.

**Dosage:**

*For protection of the inactive patient 1 or 2 tablets every 4 to 6 hours is usually sufficient to keep the urine clear, acid and sterile.*

*2 tablets on retiring will keep residual urine acid and sterile, contributing to comfort and rest.*

*A clinical supply will be sent to physicians and hospitals on request.*

WILLIAM P. POYTHRESS & COMPANY, INC., RICHMOND, VIRGINIA 23217

*Manufacturers of Ethical Pharmaceuticals*

Greater interstate distribution of products caused time-consuming recalls of contaminated and poisonous canned goods, an example of which was the Bon Vivant vichyssoise recall in July. Food program personnel made 1496 recall inspections within a 10-day period involving many overtime hours and extra travel. Because of the problems in the nation's canning industry and mass production, recalls of this nature can occur frequently in the future.

Survey statistics indicated that food processing plants and retail food markets, in general, were in an unacceptable condition. Implementation of the revised market regulation is the beginning of a much-needed comprehensive market and food processing inspection program.

A total of 1991 dairy farm inspections were made, and 6625 raw milk samples were collected from producers and analyzed.

Because of the drastic reduction in operating funds, the vector control program was handicapped in its effort to conduct a meaningful program. The small operating budget for 1971 was not sufficient to meet emergency situations, purchase insecticides, and properly maintain the vehicles on the program.

Rules and regulations on sanitary landfills and collection and transfer of garbage and refuse have been passed, with the former going into effect July 1, 1972, and the latter on January 1, 1972. The staff has made extensive promotional efforts and has assisted the responsible parties toward meeting these deadlines. Meetings have been held with 16 county delegations, 15 county commissioners, 25 county councils, 82 county officials, 63 city officials, 4 civic groups, 6 planning councils, and seven heavy equipment manufacturers. Two seminars have been held with a combined participation of approximately 450. A total of 173 open dumps have been inspected, 19 dumps closed, 51 proposed sanitary landfill sites inspected, 23 citizen complaints handled, and 4 sanitary landfills approved. Eight trainnig courses are being taught in various Technical Education Centers by our personnel.

Construction permits were issued for new or expanded water facilities for 170 subdivisions, 55 schools, 5 motel complexes, 82 district or municipal, 24 mobile home parks, 40 government projects, 11 hospitals or nursing homes, and 8 industrial installations. Fluoride-adding installations inspected numbered 45, and 424 samples were collected. Progress is being made with the Environmental Protection Agency in study of possible defluoridation in some areas, and 462 samples were collected. Sixty of the 103 water plant laboratories were inspected with 33 meriting certification, and 24,043 water samples were collected and analyzed for bacterial contamination and 1246 for chemical quality.

Sanitary surveys made on natural bathing area watersheds number 127, and this resulted in the reclassification of several streams. Weekly inspections were made on 974 public swimming pools during the swimming season. Rules and regulations were revised on public pools to keep pace with new technology and equipment, and 9137 samples were collected for bacteriological analysis as compared to 7842 last year. Of these, 11.5 per cent were positive and 27 per cent showed heavy noncoliform growth.

The shellfish sanitation program continued to operate in an efficient and health-oriented manner. The FDA awarded a state rating of 98.1 per cent — the highest ever attained by South Carolina. The patrol was granted powers this year comparable to law enforcement officials, which helped to gain this high rating.

The Bureau of Laboratory Services and Research is concerned with the development and evaluation of new diagnostic techniques and the improvement of laboratory procedures throughout the state by providing consultation, training, and proficiency testing for the laboratories of South Carolina. It was awarded a grant of $32,000 from the South Carolina Regional Medical Program for the continuing education of laboratory personnel of the state. The purpose of *The Newsletter of the Bureau of Laboratory Services and Research* is to disseminate information to all laboratories in the state regarding current disease trends, problems in public health, and new methods of techniques, laboratory diagnosis, and as an announcement of courses and workshops.

Quality control is a method or methods used to test the efficiency and reliability of reagents, chemicals, techniques, and instruments used in making laboratory determinations, and an intensive quality control program was instituted for the laboratory with a full-time person assigned to assure that all results from this laboratory are accurate. The laboratory participated in proficiency testing programs available from the Center for Disease Control and the College of American Pathologists, and staff members attended continuing education courses and workshops to maintain their diagnostic acumen.

The workload in the regional laboratories increased 48 per cent in 1971. The new laboratory facility in the Charleston County Health Department was staffed with a medical technologist, and diagnostic services were instituted in support of the clinics. The regional laboratories are now examining cultures for *Neisseria gonorrhoeae* so that this improved diagnostic method is available close to the clinic. In addition, an increased number of serological tests for syphilis, water, and milk examinations are performed in the local laboratories.

The newly available Transgrow medium for the growth of *Neisseria gonorrhoeae* has been distributed to county health departments for use in the family planning and prenatal clinics resulting in the finding that approximately 10 per cent of these patients are asymptomatic carriers of this disease. Laboratory service for gonorrhea cultures is now available in the Anderson, Charleston, Florence, and Greenville Regional Laboratories as well as in Columbia.

The increased workload in virology is composed primarily of rubella serology. Since the rubella vaccine was licensed in 1969, most South Carolina physicians are interested in the immune status of their patients in the childbearing age group. In 1968 when the test was perfected, 531 examinations for this disease were done, and 19,003 examinations were done in 1971. This is a classic example of last year's research project becoming today's routine diagnostic procedure.

South Carolina has enjoyed the unique distinction in the United States of not having any evidence of rabies in domestic or wild animals since 1967 when two bats were found to be rabid. In 1971, however, 20 rabid bats were found.

Two of the most significant innovations instituted at the State Park Health Center Laboratory during the past year involve the bacteriological diagnosis of tuberculosis. A carbon dioxide incubator is now used for the initial incubation of mycobacteria cultures. This method shortens the length of time required for growth of *M. tuberculosis* and enhances the recovery of this organism; thus, more organisms are isolated in a shorter period of time. Second, a fluorescent microscope was purchased for the examination of sputum smears because fluorescent microscopy permits more rapid screening of slides for mycobacteria. With the use of both techniques, the hospitalization time of the patient may be reduced substantially by providing the physician with laboratory data more rapidly.

Determinations performed on water to which the public was exposed either as drinking water or in recreational pursuits numbered 46,064. In 1971, 1046 samples of oyster-bearing waters were analyzed for bacteriological contaminants as compared with 218 in 1970. Increased sampling of these waters was done at the request of the Federal Drug Administration. Also performed were 6224 examinations for heavy metals on environmental samples. This includes complete monitoring of rivers, streams, lakes, and fish from natural watersheds for mercury contamination. Also conducted were 396 toxicological investigations of lead, arsenic, pesticides, and drugs on tissue samples submitted by physicians, hospitals, and state agencies.

Pesticide residues and other special chemical determinations were conducted in cooperation with the Pollution Control Authority, and also in cooperation with the Medical University of South Carolina, the Wildlife Resources Department, and the Water Resources Commission.

Drug screens on tissues and toxicological specimens for diagnostic purposes are conducted by our laboratory, with all samples involved in illegal drug traffic or in which criminal action may be suspected being sent to

the State Law Enforcement Division laboratory.

Governor John C. West has expressed specific interest in providing health insurance coverage to state employees. Dr. Harold P. Hope, Dr. John Booker, Dr. Ira B. Horton, Dr. Aycock, and Mr. M. L. Meadors were appointed to this committee with legislators and consumers of health services. It has promises of being a vehicle through which we can improve the health needs of the people. It will be worked out between the consumers, the doctors, and the legislators.

The governor has appointed a Committee on Child Development to study the health, social, and education aspects and what we can do to improve these conditions. Dr. Aycock is chairman of this Committee. The governor also appointed a committee to improve substandard housing in the state, and the State Board of Health is represented on that committee by Dr. Aycock.

Requests by the Department of Mental Retardation and the Department of Mental Health for the sexual sterilization of 13 persons were approved.

We were all saddened by the deaths of Dr. G. S. T. Peeples and Dr. Leon Banov, both patriarchs of public health in South Carolina whose careers of approximately 40 years each were dedicated to improving the health of the people. Where we are today in public health we owe to leaders like these.

W. Wyman King, M. D., Chairman

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**Medical Advisory Committee to The South Carolina Vocational Rehabilitation Department**

(Subcommittee of the Committee on Cooperative Activities)

The South Carolina Medical Association Medical Advisory Committee to the Vocational Rehabilitation Agency met in Columbia, February 17, 1972. The meeting was attended by supporting personnel from the Agency as follows: Dr. Dill D. Beckman, Commissioner; Mr. Joe S. Dusenbury, Assistant Commissioner, Field and Case Services; Mr. T. E. Ringer, Jr., Assistant Commissioner, Administration and Special Services; Mr. C. J. Collins, Supervisor, Rehabilitation Services Division; Mr. B. J. Marett, Supervisor, Disability Determination Division; Mr. James McClary, Supervisor, Workshops and Facilities Division; Mr. George L. Cleckler, Division Supervisor, VR-PS Program; and Miss Willie Bush Deason,



**J. Howard Stokes, M. D.**
**Treasurer**



**Strother Pope, M. D.**
**Secretary**

Staff Assistant. Committee members attending were as follows: Dr. Albert F. Aiken, Dr. Charlton P. Armstrong, Dr. E. Kenneth Aycock, Dr. Richard M. Christian, Dr. Elgar P. Ellis, Jr., Dr. Peter C. Gazes, Dr. Harry J. Metropol, Dr. J. Kilgo Webb, and Dr. A. Frank Weir, Jr.

The committee heard Dr. Dill D. Beckman, Commissioner of the Rehabilitation Agency, on the subject of budget and legislation. He discussed participation of Rehabilitation in the renal dialysis program in the State. Drs. Weir, Armstrong, and Gazes made pertinent remarks regarding this program. In addition, Dr. Beckman cited the act passed in 1971 by the South Carolina State Legislature which outlines the hemo-dialysis program in South Carolina as follows:

> "The Medical University of South Carolina is hereby designated as the agency for the purchase, distribution and administration of hemo-dialysis machines for the treatment of kidney diseases. The University shall purchase and distribute to hospitals or to individuals, if deemed advisable, as many machines as are necessary for the treatment of the citizens of this State and which may be purchased from funds made available for such purposes. The State Agency of Vocational Rehabilitation shall cooperate with the Medical University in this program and shall sponsor individuals found eligible under the Vocational Rehabilitation Program provided funds are made available for such sponsorship."

Next, Dr. Peter Gazes addressed the group on the cardiovascular facility at the Medical University. He gave credit to the South Carolina Rehabilitation Agency for supplying essential monies for sophisticated equipment for the facility. He emphasized the large volume of work done in the catheterization laboratory, particularly, since the advent of coronary artery bypass surgery.

The Chairman discussed the Emory Regional Rehabilitation and Training Center. It was emphasized that this center was available for the South Carolina Rehabilitation for problem solving, instruction and research. Other formal instructional groups of special organizations were mentioned, particularly, the



**Pre-Sate®**
**(chlorphentermine HCl)**
**CAUTION**: Federal law prohibits dispensing without prescription
**Indications:** Pre-Sate (chlorphentermine hydrochloride) is indicated in exogenous obesity, as a short term (*i.e.*, several weeks) adjunct in a regimen of weight reduction based upon caloric restriction
**Contraindications:** Glaucoma, hyperthyroidism, pheochromocytoma, hypersensitivity to sympathomimetic amines, and agitated states. Pre-Sate (chlorphentermine hydrochloride) is also contraindicated in patients with a history of drug abuse or symptomatic cardiovascular disease of the following types: advanced arteriosclerosis, severe coronary artery disease, moderate to severe hypertension, or cardiac conduction abnormalities with danger of arrhythmias. The drug is also contraindicated during or within 14 days following administration of monamine oxidase inhibitors, since hypertensive crises may result.
**Warnings:** When weight loss is unsatisfactory the recommended dosage should not be increased in an attempt to obtain increased anorexigenic effect; discontinue the drug. Tolerance to the anorectic effect may develop. Drowsiness or stimulation may occur and may impair ability to engage in potentially hazardous activities such as operating machinery, driving a motor vehicle, or performing tasks requiring precision work or critical judgment. Therefore, such patients should be cautioned accordingly. Caution must be exercised if Pre-Sate (chlorphentermine hydrochloride) is used concomitantly with other central nervous system stimulants. There have been reports of pulmonary hypertension in patients who received related drugs.
**Drug Dependence:** Drugs of this type have a potential for abuse. Patients have been known to increase the intake of drugs of this type to many times the dosages recommended. In long-term controlled studies with high dosages of Pre-Sate, abrupt cessation did not result in symptoms of withdrawal.
**Usage In Pregnancy:** The safety of Pre-Sate (chlorphentermine hydrochloride) in human pregnancy has not yet been clearly established. The use of anorectic agents by women who are or who may become pregnant, and especially those in the first trimester of pregnancy, requires that the potential benefit be weighed against the possible hazard to mother and child. Use of the drug during lactation is not recommended. Mammalian reproductive and teratogenic studies with high multiples of the human dose have been negative.
**Usage In Children:** Not recommended for use in children under 12 years of age.
**Precautions:** In patients with diabetes mellitus there may be alteration of insulin requirements due to dietary restrictions and weight loss. Pre-Sate (chlorphentermine hydrochloride) should be used with caution when obesity complicates the management of patients with mild to moderate cardiovascular disease or diabetes mellitus, and only when dietary restriction alone has been unsuccessful in achieving desired weight reduction. In prescribing this drug for obese patients in whom it is undesirable to introduce CNS stimulation or pressor effect, the physician should be alert to the individual who may be overly sensitive to this drug. Psychologic disturbances have been reported in patients who concomitantly receive an anorexic agent and a restrictive dietary regimen.
**Adverse Reactions: Central Nervous System:** When CNS side effects occur, they are most often manifested as drowsiness or sedation or overstimulation and restlessness. Insomnia, dizziness, headache, euphoria, dysphoria, and tremor may also occur. Psychotic episodes, although rare, have been noted even at recommended doses. **Cardiovascular:** tachycardia, palpitation, elevation of blood pressure. **Gastrointestinal:** nausea and vomiting, diarrhea, unpleasant taste, constipation. **Endocrine:** changes in libido, impotence. **Autonomic:** dryness of mouth, sweating, mydriasis. **Allergic:** urticaria. **Genitourinary:** diuresis and, rarely, difficulty in initiating micturition. **Others:** Paresthesias, sural spasms.
**Dosage and Administration:** The recommended adult daily dose of Pre-Sate (chlorphentermine hydrochloride) is one tablet (equivalent to 65 mg chlorphentermine base) taken after the first meal of the day. Use in children under 12 not recommended.
**Overdosage: Manifestations:** Restlessness, confusion, assaultiveness, hallucinations, panic states, and hyperpyrexia may be manifestations of acute intoxication with anorectic agents. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension, or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Fatal poisoning usually terminates in convulsions and coma.
**Management:** Management of acute intoxication with sympathomimetic amines is largely symptomatic and supportive and often includes sedation with a barbiturate. If hypertension is marked, the use of a nitrate or rapidly acting alpha-receptor blocking agent should be considered. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendations in this regard.
**How Supplied:** Each Pre-Sate (chlorphentermine hydrochloride) tablet contains the equivalent of 65 mg chlorphentermine base; bottles of 100 and 1000 tablets.
**Full information available on request.**

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**Pre-Sate®** (chlorphentermine HCl)...the increasingly practical appetite suppressant



# When you select this familiar antibiotic for IV infusion you have available a broad dosage range that hospitalized patients may need.

Intravenous Lincocin (lincomycin hydrochloride, Upjohn), with its 1.2 to 8 grams/day dosage range, covers many serious and even life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. Lincocin IV therefore can be as useful in your hospitalized patients as its IM use has proved to be in your office patients. As with all antibiotics, *in vitro* susceptibility studies should be performed.

**1.2 to 8 grams/day IV dosage range:** Most hospitalized patients with uncomplicated pneumonias respond satisfactorily to 1.2 to 1.8 grams/day of Lincocin IV. These doses may have to be increased for more serious infections. In life-threatening situations as much as 8 grams/day has been administered intravenously to adults.

In usual IV doses, Lincocin (lincomycin hydrochloride, Upjohn) should be diluted in 250 ml or more of normal saline solution or 5% glucose in water. But when 4 grams or more per day is given, Lincocin should be diluted in not less than 500 ml of either solution, and the rate of administration should not exceed 100 ml/hour. Too rapid intravenous administration of doses exceeding 4 grams may result in hypotension or, in rare instances, cardiopulmonary arrest.

**Effective gram-positive antibiotic:** Lincocin IV is effective in respiratory tract, skin and soft-tissue, and bone

nfections caused by susceptible strains f pneumococci, streptococci, and taphylococci, including penicillin-esistant strains. Staphylococcal strains esistant to Lincocin (lincomycin ydrochloride, Upjohn) have been ecovered. Before initiating therapy, ulture and susceptibility studies should e performed. Lincocin has proved aluable in treating patients hyper-ensitive to penicillin or cephalosporins, nce Lincocin does not share ntigenicity with these compounds. lowever, hypersensitivity reactions ave been reported, some of these in atients known to be sensitive to enicillin.

**ell tolerated at infusion site:** Lincocin i travenous infusions have not roduced local irritation or phlebitis, nen given as recommended. Lincocin i usually well tolerated in patients who ae hypersensitive to other drugs. evertheless, Lincocin should be used cutiously in patients with asthma or gnificant allergies.

I patients with impaired renal function, te recommended dose of Lincocin s ould be reduced to 25—30% of tle dose for patients with normal kdney function. Its safety in pegnant patients and in infants es than one month of age has n t been established.

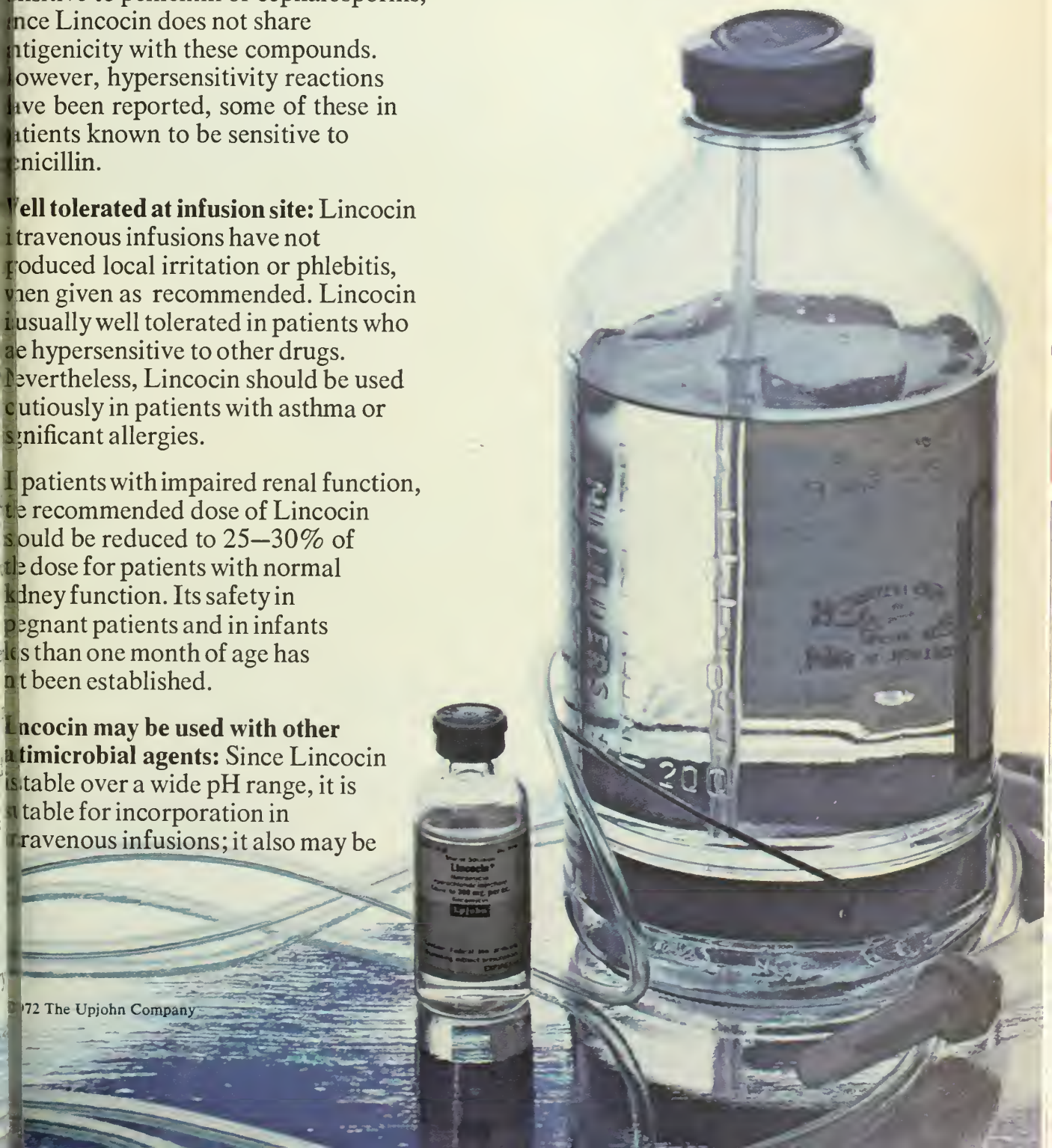
**ncocin may be used with other a timicrobial agents:** Since Lincocin is table over a wide pH range, it is s table for incorporation in r avenous infusions; it also may be administered concomitantly with other antimicrobial agents when indicated. However, Lincocin should not be used with erythromycin, as *in vitro* antagonism has been reported.

# Lincocin®

Sterile Solution (300 mg per ml)

## (lincomycin hydrochloride, Upjohn)

For further prescribing information, please see following page.



'72 The Upjohn Company



Sterile Solution (300 mg. per ml.)

# Lincocin®

# (lincomycin hydrochloride, Upjohn)

## Up to 8 grams per day by IV infusion for hospitalized patients with life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. As with all antibiotics, *in vitro* susceptibility studies should be performed.

| Each preparation contains: | Lincomycin hydrochloride monohydrate equivalent to lincomycin base |
|---|---|
| 250 mg Pediatric Capsule | 250 mg |
| 500 mg Capsule | 500 mg |
| *Sterile Solution per 1 ml | 300 mg |
| Syrup per 5 ml | 250 mg |

*Contains also: Benzyl Alcohol 9 mg; and, Water for Injection—q.s.

Lincocin (lincomycin hydrochloride) is indicated in infections due to susceptible strains of staphylococci, pneumococci, and streptococci. *In vitro* susceptibility studies should be performed. Cross resistance has not been demonstrated with penicillin, ampicillin, cephalosporins, chloramphenicol or the tetracyclines. Some cross resistance with erythromycin has been reported. Studies indicate that Lincocin does not share antigenicity with penicillin compounds.

CONTRAINDICATIONS: History of prior hypersensitivity to lincomycin or clindamycin. Not indicated in the treatment of viral or minor bacterial infections.

WARNINGS: *CASES OF SEVERE AND PERSISTENT DIARRHEA HAVE BEEN REPORTED AND HAVE AT TIMES NECESSITATED DISCONTINUANCE OF THE DRUG. THIS DIARRHEA HAS BEEN OCCASIONALLY ASSOCIATED WITH BLOOD AND MUCUS IN THE STOOLS AND HAS AT TIMES RESULTED IN AN ACUTE COLITIS. THIS SIDE EFFECT USUALLY HAS BEEN ASSOCIATED WITH THE ORAL DOSAGE FORM BUT OCCASIONALLY HAS BEEN REPORTED FOLLOWING PARENTERAL THERAPY.* A careful inquiry should be made concerning previous sensitivities to drugs or other allergens. Safety for use in pregnancy has not been established and Lincocin (lincomycin hydrochloride) is not indicated in the newborn. Reduce dose 25 to 30% in patients with severe impairment of renal function.

PRECAUTIONS: Like any drug, Lincocin should be used with caution in patients having a history of asthma or significant allergies. Overgrowth of nonsusceptible organisms, particularly yeasts, may occur and require appropriate measures. Patients with pre-existing monilial infections requiring Lincocin therapy should be given concomitant antimonilial treatment. During prolonged Lincocin therapy, periodic liver function studies and blood counts should be performed. Not recommended (inadequate data) in patients with pre-existing liver disease unless special clinical circumstances indicate. Continue treatment of β-hemolytic streptococci infections for 10 days to diminish likelihood of rheumatic fever or glomerulonephritis.

ADVERSE REACTIONS: *Gastrointestinal*—Glossitis, stomatitis, nausea, vomiting. Persistent diarrhea, enterocolitis, and pruritus ani. *Hemopoietic*—Neutropenia, leukopenia, agranulocytosis, and thrombocytopenic purpura have been reported. *Hypersensitivity reactions*—Hypersensitivity reactions such as angioneurotic edema, serum sickness, and anaphylaxis have been reported, sometimes in patients sensitive to penicillin. If allergic reaction occurs, discontinue drug. Have epinephrine, corticosteroids, and antihistamines available for emergency treatmer *Skin and mucous membranes*—Skin rashe urticaria, vaginitis, and rare instances of e foliative and vesiculobullous dermatitis ha been reported. *Liver*—Although no direct r lationship to liver dysfunction is establishe jaundice and abnormal liver function te (particularly serum transaminase) have be observed in a few instances. *Cardiovascul* —Instances of hypotension following pare teral administration have been reporte particularly after too rapid IV administr tion. Rare instances of cardiopulmonary a rest have been reported after too rapid I administration. If 4.0 grams or more admi istered IV, dilute in 500 ml of fluid a administer no faster than 100 ml per hou *Special senses*—Tinnitus and vertigo ha been reported occasionally. *Local reactio* —Excellent local tolerance demonstrated intramuscularly administered Lincoc (lincomycin hydrochloride). Reports of pa following injection have been infreque Intravenous administration of Lincocin 250 to 500 ml of 5% glucose in distil water or normal saline has produced local irritation or phlebitis.

HOW SUPPLIED: *250 mg* and *500 r* Capsules—bottles of 24 and 100. *Ster Solution, 300 mg per ml*—2 and 10 ml vi and 2 ml syringe. *Syrup, 250 mg per 5* —60 ml and pint bottles.

*For additional product information, cons the package insert or see your Upjo representative.*

MED B-6-S (KZL-7) JA71-16

The Upjohn Company
Kalamazoo, Michigan 49001

Upjoh



Harold Hope, M. D.
Chairman of Council

American College of Physicians' instructional conference for internists at the Mayo Clinic.

During the discussion period, a number of programs for facilities were discussed. Dr. Aycock and Dr. Beckman commented on the State Park Health Center.

No action was required by the committee and no special recommendations were made by the committee to the South Carolina Rehabilitation Agency.

An organizational meeting of the committee was held and Dr. J. Kilgo Webb was elected chairman of the committee to replace the present chairman, Dr. Ben N. Miller.

Ben N. Miller, M. D., Chairman

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### Mediation Committee

Five (5) cases were reviewed by the Mediation Committee during the past year. One of these cases was referred to the Peer Review Committee. The other four (4) were handled by correspondence to the apparent satisfaction of the parties involved.

Because of the light load this year, it was not necessary for our Committee to meet as a group.

Robert S. Solomon, M. D., Chairman

### Memorial Committee

There has been no activity in the Memorial Committee this year.

Robert W. Patton, M. D., Chairman

### Peer Review

During 1971, this Committee met on ten (10) occasions to consider several matters of dispute and to formulate advice to the Association relative to peer review.

It is the finding of this Committee that continual medical peer review, through the establishment and maintenance of generally acceptable "norms" or "guidelines" of medical care, offers a convenient and effective means of continual professional education.

It is the finding of this Committee that, from time to time, third party carriers, patients and physicians alike may be abused or victimized and that rectification and prevention of such instances under present mechanisms of adjudication are, at best, time consuming and are occasionally impossible.

It is the opinion of this Committee that the interests of the medical profession can best be served through a closer union of all physicians to more clearly define standards of all aspects of medical care, interpret policy of governmental agencies and to advise governmental agencies and all "third party" interests of the opinions of the medical profession regarding all aspects of the provision of medical care.

This Committee, then, recommends the endorsement and approval of the concept of continual peer review as a means of providing the greatest degree of protection to all, to promote continual medical education, to adjudicate all disputes relative to medical care and to effectively unite the members of our profession in the formulation and presentation of authoritative opinions regarding all aspects of medical care.

This Committee further recommends that such peer review be accomplished, in so far as is practicable, at the "local" level through the general participation of all physicians to establish local peer review committees in cooperation with County Medical Societies and hospital staffs; that such local peer review committees be charged with the responsibility of advising all physicians of the "norms" or "guidelines" to be published by the Associa-

tion; that these local peer review committees from time to time advise the State Peer Review Committee relative to any aspect of peer review; that these local peer review committees be authorized to review any matter referred to them relative to the practice of medicine and to approve, in the name of the Association, all medieal activities that are within the established "norms" or "guidelines"; and that the local peer review committees refer all matters in whieh the "norms" or "guidelines" of medical care may have been breached to the pertinent Peer Review Board.

This Committee further recommends that each formally organized branch of medicine in South Carolina be asked to establish a "Peer Review Board", that such Peer Review Boards be responsible for the definition and maintenance of the norms or guidelines pertinent to that branch of medicine, that such Norms and revisions thereof be provided to the Association for publication and distribution, that the Peer Review Boards be authororized to receive and to review any matter referred to them by the Local Peer Review Committees, that the Peer Review Boards be authorized to approve in the name of the Association all medical aetivities that are within the established norms or guidelines, that the Peer Review Boards refer all matters in which the norms may have been breached to the State Peer Review Committee, and that the Peer Review Boards from time to time advise the State Peer Review Committee relative to any aspects of peer review.

This Committee further recommends that the State Peer Review Committee receive and review all matters referred to it by the Peer Review Boards, and that the State Peer Review Committee be authorized to render opinions concerning all referred matters in the name of the Association, and that such opinions be subject to appeal by any interested parties to the Mediation Committee of the SCMA.

This Committee further recommends that the Assoeiation move toward enactment of such State legislation as is necessary to provide appropriate immunity for all partieipants in peer review activities.

Michael F. Patton, M. D., Chairman

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**Public Relations Committee**

Activities of the Public Relations Committee for 1971-72 have been cuch the same as those of the preceding years. A continuing series of



Thomas Parker, M. D.
Delegate to A. M. A.



John Hawk, M. D.
Delegate to A. M. A.

30-second television spots giving brief practical medical advice has been well received by the major television stations of the state. A new spot is provided each month. The venture has been supported financially by the Association and the S. C. Regional Medical Program at very little cost.

The weekly articles on medical subjects, mostly written by the chairman, are apparently still welcomed by 14 newspapers of the state, including the major papers. Comments on these indicate that they are well received. Assistance from the members of the Association in providing articles would be very much appreciated.

These two programs are aimed at indicating to the public that the Association has its health at heart. The committee believes that these endeavors are worthwhile, and recommends their continuation.

The committee has had no success in designing a general program aimed at improving the public image of the profession. It believes that good individual performance by members of the Association is the key factor. Yet something might be accomplished by an effective speakers bureau, through which talks on a variety of subjects, clinical or medical political, might be offered to any organization wishing to have speakers. Earlier efforts along this line have not been to successful, but a sustained push might be fruitful. The services of Mr. Richard Pugh could be utilized to advantage in promoting this effort.

The Annual Midwinter Meeting of County Society Officers, held in February, created much fruitful discussion of Foundations for Medical Care. This worthwhile meeting should be continued.

Your chairman attended a meeting in Columbia of a panel of the South Carolina Hospital Association, which judged entries in its press awards for newspaper articles on health care.

The committee suggests that the activities of the Public Information subcommittee of the Public Relations Committee be made separate from the general committee. The general committee might devote itself to measures aimed at improving the public image of the profession. Costs for operation of the Public Information Committee could be estimated at about $1,500-$1,800 a year for secretarial help, copying of articles, preparations of television spots, postage and minor expenses.

Joseph I. Waring, M. D., Chairman



**Harrison Peeples, M. D.**
**Alternate Delegate to A. M. A.**



**C. Tucker Weston, M. D.**
**Alternate Delegate to A. M. A.**

# EXHIBITORS

### ASTRA PHARMACEUTICAL PRODUCTS, INC.

Information and descriptive literature pertaining to Xylocaine® (lidocaine) and Citanest® (prilocaine) local and topical anesthetics, and the intravenous use of Xylocaine in the treatment of life-threatening cardiac arrhythmias will be available at the Astra booth.

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### BRISTOL LABORATORIES

You are cordially invited to visit our exhibit reflecting Bristol's leadership and enduring commitment to the manufacturer of life-saving antibiotics.

For your consideration, the following Bristol antibiotics are featured: Versapen® (hetacillin); Tetrex® (tetracycline phosphate complex); Kantrex® (kanamycin sulfate); Prostaphlin® (sodium oxacillin); Bristamycin® (erythromycin stearate); Salutensin® (hydroflumethiazide, reserpine and protoveratrine A); and Naldecon® (antihistamine decongestant).

Our Representatives welcome the opportunity to answer your inquiries.

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The R. L. Bryan Company will participate with exhibits in copying systems and audio visual instructional systems.

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### COLUMBIA BRACE SHOP

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### EDUCATIONAL AIDS PUBLISHING COMPANY

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### FLOYD BRACE COMPANY

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### LAKESIDE LABORATORIES, INC.

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80 Barre St., Charleston, S. C. 29401

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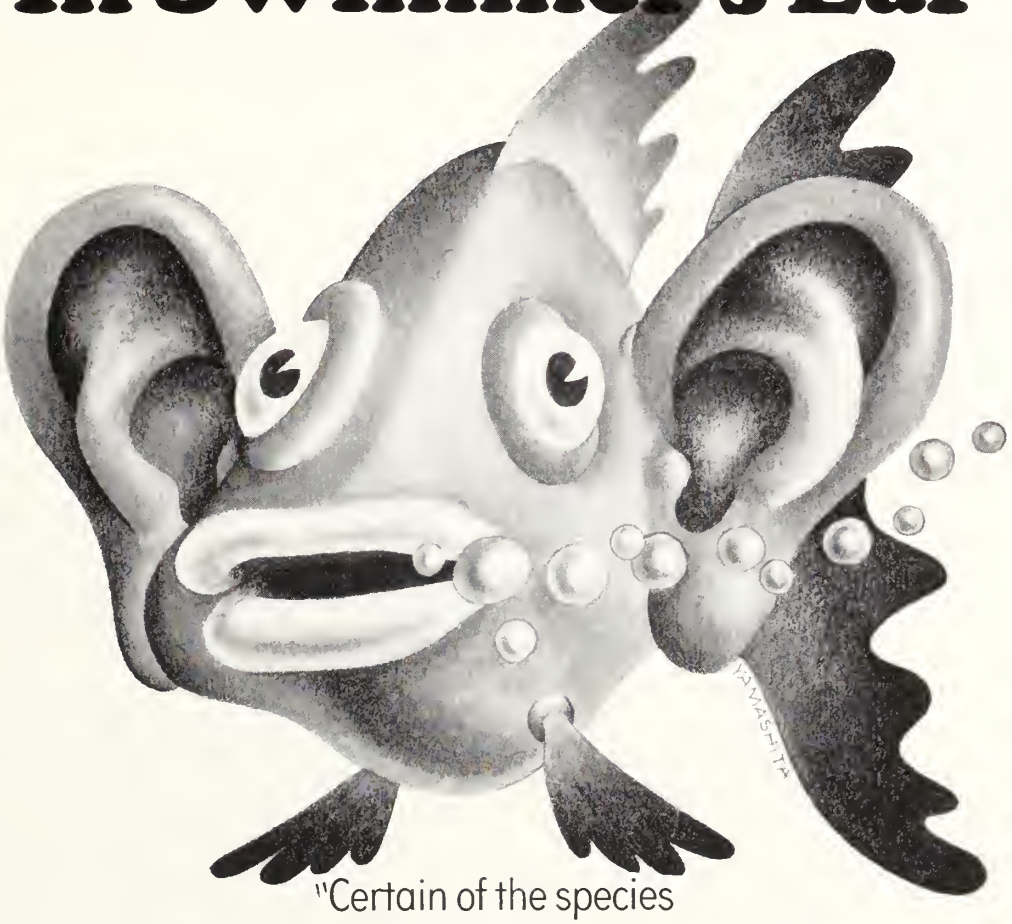
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The Annual Southern Obstetrical and Gynecological Seminar will be held at the Grove Park Inn, Asheville, North Carolina, on July 23-28 and subjects will cover a broad field of obstetrics and gynecology.

Dr. George T. Schneider, Secretary
Southern Obstetrical and
Gynecological Seminar
Ochsner Clinic
1514 Jefferson Highway
New Orleans, Louisiana 70121

# In Swimmer's Ear




"Certain of the species
are apt to encounter aural
difficulties after engaging in various
natatory pursuits."

# Furacin® Otic

## (nitrofurazone) antibacterial/anesthetic/antifungal

**Formula:** Contoins (w/w) 0 2% FURACIN, brand of nitrofurozone, 0 375% Micofur®, brand of nifuroxime, and 2% diperodon hydrochloride dissolved in water-soluble, nondrying, hygroscopic polyethylene glycol.

**Indications:** For treatment of bacterial otitis externa, bacterial otitis media and otomycosis. In otitis media, this preparation is not effective if the tympanic membrane is intact.

FURACIN (nitrofurazone) and Micofur (nifuroxime) are active against a variety of gram-positive and gram-negative organisms. Activity versus Pseudomonas sp. is limited to certain strains. Micofur (nifuroxime) is active against Candida (Monilia) albicans.

**Precautions:** Sensitization may occur with prolonged use and is more likely to develop in eczematous otitis externa. To minimize such reactions (a) limit application to a week or less, and (b) avoid use of excessive amounts which may run down the face.

This preparation is not indicated for use in treatment of cholesteatoma, where surgical intervention is necessary

**Supplied: Bottle of 15 cc. with dropper.**

®Originators and Developers of The Nitrofurans
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# Librium®
# (chlordiazepoxide HCl)
# and effectiveness

Francis A Countway Lib of Medicine
10 Shattuck Street
Boston Massachusetts 02115

The antianxiety effectiveness of Librium (chlordiazepoxide HCl) has been demonstrated in more than a decade of varied use. Librium usually provides prompt, dependable relief of mild to severe clinically significant anxiety. It is indicated when reassurance and counseling are not enough and until, in the physician's judgment, anxiety has been reduced to tolerable, appropriate levels.

**Effect on mental acuity:** Usually minimal on proper maintenance dosage. (See Warnings in summary of prescribing information.)

**Safety:** An excellent clinical record. In general use, the most common side effects reported have been drowsiness, ataxia, and confusion, particularly in the elderly and debilitated.

**Concomitant use:** Is used as adjunctive antianxiety therapy concomitantly with certain specific medications of other classes of drugs, such as cardiac glycosides, antihypertensive agents, diuretics, anticoagulants, anticholinergics and antacids. Although clinical studies have not established a cause and effect relationship, physicians should be aware that variable effects on blood coagulation have been reported very rarely in patients receiving oral anticoagulants and chlordiazepoxide hydrochloride.

## in relief of clinically significant anxiety

# Librium®
## (chlordiazepoxide HCl)

**5-mg, 10-mg, 25-mg capsules**
**up to 100 mg daily in severe anxiety**

**Before prescribing, please consult complete product information, a summary of which follows:**
**Indications:** Indicated when anxiety, tension and apprehension are significant components of the clinical profile.
**Contraindications:** Patients with known hypersensitivity to the drug.
**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.
**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.
**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.
**Supplied:** Librium capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.

ROCHE
Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

# The Journal of The SOUTH CAROLINA Medical Association


5 JUN 1972


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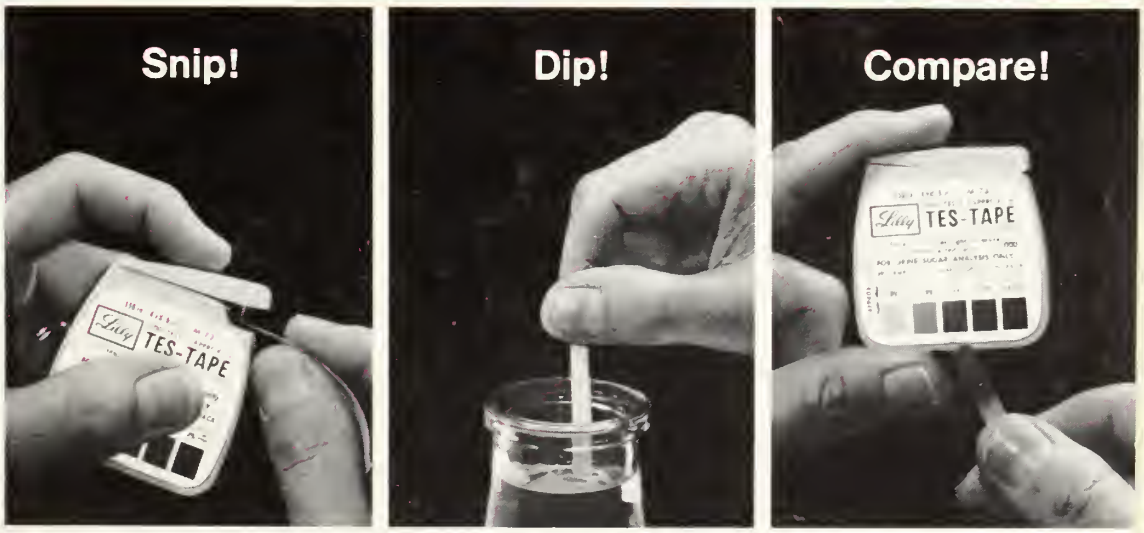
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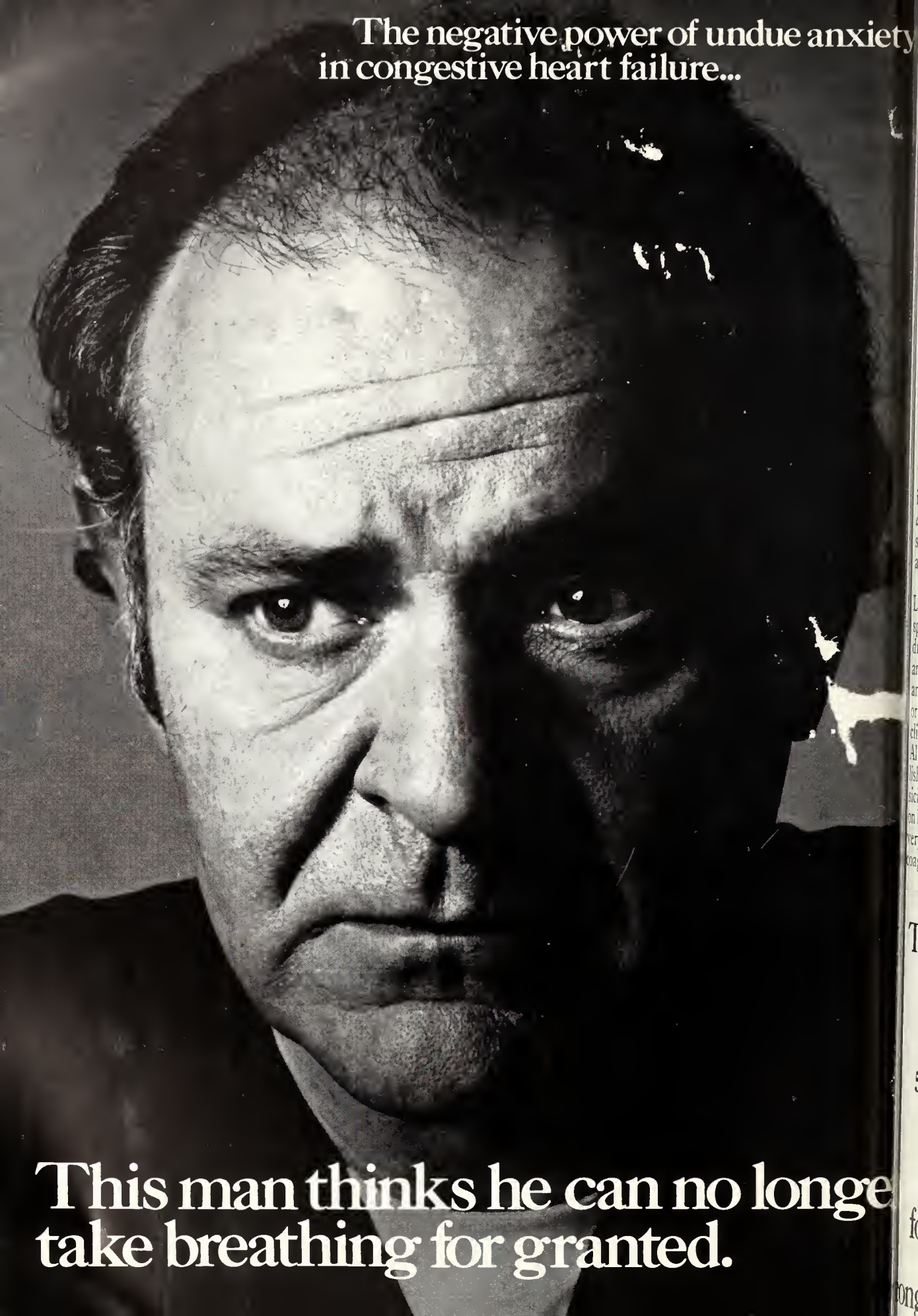
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in congestive heart failure...
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take breathing for granted.

**Typical of many patients with congestive heart failure, he also suffers from severe anxiety, a psychic factor that may influence the character and degree of his symptoms, such as dyspnea. His apprehension may also deprive him of the emotional calm so important in maintenance therapy.**

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*Concomitant use with primary agents*

Libritabs is used concomitantly with certain specific medications of other classes of drugs, such as cardiac glycosides, diuretics, antihypertensives, vasodilators and oral anticoagulants, whenever excessive anxiety or emotional tension adversely affects the clinical condition or response to therapy. Although clinical studies have not established a cause and effect relationship, physicians should be aware that variable effects on blood coagulation have been reported very rarely in patients receiving oral anticoagulants and chlordiazepoxide HCl.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Indicated when anxiety, tension and apprehension are significant components of the clinical profile.

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

**Supplied:** Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.

# The positive power of

# Libritabs®

## (chlordiazepoxide)

5-mg, 10-mg, 25-mg tablets

## t.i.d./q.i.d.

up to 100 mg daily

## for severe anxiety accompanying congestive heart failure

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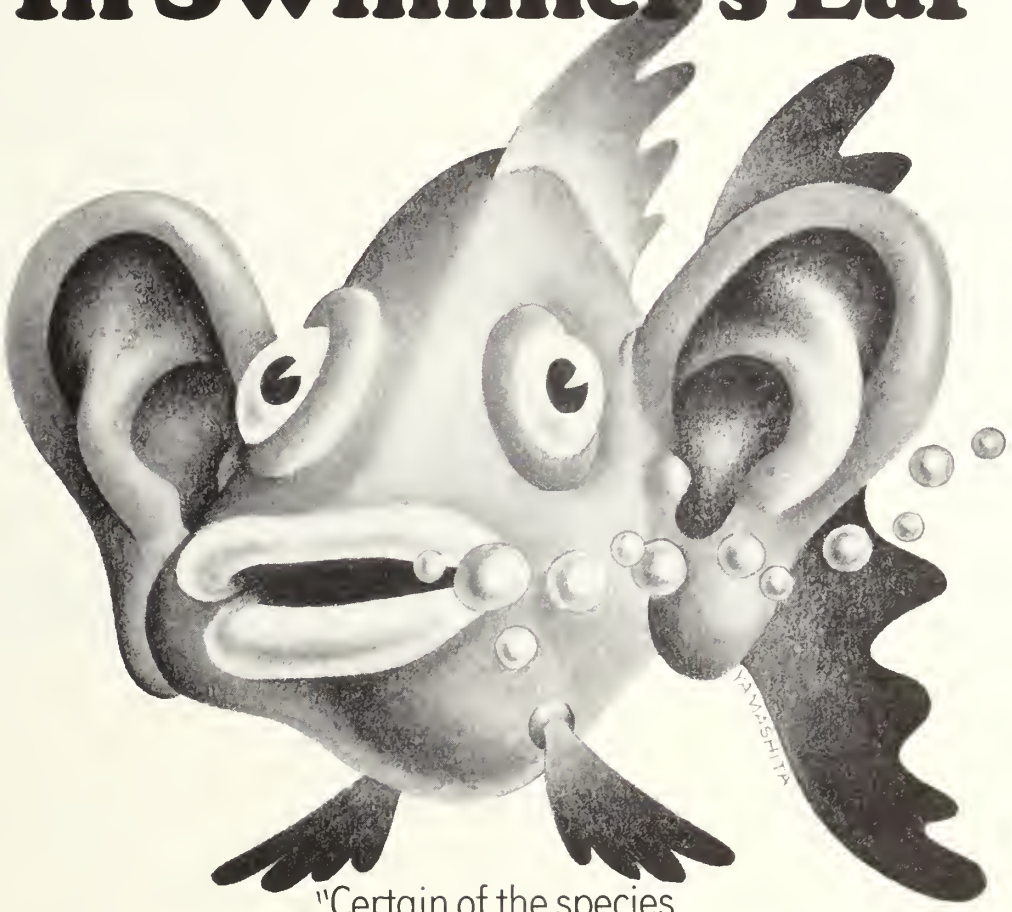
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# In Swimmer's Ear




"Certain of the species
are apt to encounter aural
difficulties after engaging in various
natatory pursuits."

# Furacin® Otic

(nitrofurazone) antibacterial/anesthetic/antifungal

**Formula:** Contoins (w/w) 0.2% FURACIN, brand of nitrofurazone, 0.375% Micofur®, brand of nifuroxime, and 2% diperodon hydrochloride dissolved in water-soluble, nondrying, hygroscopic polyethylene glycol.

**Indications:** For treatment of bacterial otitis externa, bacterial otitis media and otomycasis. In otitis media, this preparation is not effective if the tympanic membrone is intact.

FURACIN (nitrofurazone) and Micofur (nifuroxime) are active against a variety of gram-positive and gram-negative organisms. Activity versus Pseudomonas sp. is limited to certoin strains. Micafur (nifuroxime) is active against Candida (Manilia) albicans.

**Precautions:** Sensitization may occur with prolonged use and is more likely to develop in eczematous otitis externa To minimize such reactions (a) limit application to a week or less, and (b) avoid use of excessive amounts which may run down the face.

This preparation is not indicated for use in treatment of cholesteatoma, where surgical intervention is necessary

**Supplied: Bottle of 15 cc. with dropper.**

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*The Journal of The*
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**MAY, 1972 — VOL. 68, NO. 5**

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

**Contributions of Original Articles**

Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

Manuscripts—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

Illustrations—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

References—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, Arch Int Med 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard—e.g. mg, ml, Gm.

Reprints—Reprints will be made for the author at established rates.




# rheumatoid arthritic blowup...

## Tandearil® Geigy

oxyphenbutazone NF tablets of 100 mg.

*tant Note:* This drug is not a simple analgesic. t administer casually. Carefully evaluate patients e starting treatment and keep them under close vision. Obtain a detailed history, and complete al and laboratory examination (complete gram, urinalysis, etc.) before prescribing and at nt intervals thereafter. Carefully select patients, ng those responsive to routine measures, con- icated patients or those who cannot be observed ntly. Warn patients not to exceed recommended e. Short-term relief of severe symptoms with allest possible dosage is the goal of therapy. ge should be taken with meals or a full glass of Patients should discontinue the drug and report diately any sign of: fever, sore throat, oral s (symptoms of blood dyscrasia); dyspepsia, stric pain, symptoms of anemia, black or tarry or other evidence of intestinal ulceration or rrhage, skin reactions, significant weight gain or a. A one-week trial period is adequate. Discon- in the absence of a favorable response. Restrict ent periods to one week in patients over sixty. *tions:* Acute gouty arthritis, rheumatoid arthritis, atoid spondylitis.

*aindications:* Children 14 years or less; senile nts; history or symptoms of G.I. inflammation or ation including severe, recurrent or persistent psia; history or presence of drug allergy; blood asias; renal, hepatic or cardiac dysfunction; tension; thyroid disease; systemic edema; titis and salivary gland enlargement due to the polymyalgia rheumatica and temporal arteritis; nts receiving other potent chemotherapeutic s, or long-term anticoagulant therapy.

*ngs:* Age, weight, dosage, duration of therapy, nce of concomitant diseases, and concurrent t chemotherapy affect incidence of toxic reac- Carefully instruct and observe the individual t, especially the aging (forty years and over) ave increased susceptibility to the toxicity of the Use lowest effective dosage. Weigh initially dictable benefits against potential risk of severe, atal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

*Precautions:* The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

*Adverse Reactions:* This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angiitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement.
(B)98-146-800-E

*For complete details, including dosage, please see full prescribing information.*

GEIGY Pharmaceuticals
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Ardsley, New York 10502

TA-8356-9



# a new outlook in chronic pain

## of moderate to severe intensity

Though Talwin® can be compared to codeine in analgesic efficacy, it is not a narcotic. So patients receiving Talwin for prolonged periods face fewer of the consequences you've come to expect with narcotic analgesics. And that, in the long run, can mean a better outlook for your chronic-pain patient.

**Talwin Tablets are:**

- **Comparable to codeine in analgesic efficacy:** one 50 mg. Talwin Tablet appears equivalent in analgesic effect to 60 mg. (1 gr.) of codeine. Onset of significant analgesia usually occurs within 15 to 30 minutes. Analgesia is usually maintained for 3 hours or longer.
- **Tolerance not a problem:** tolerance to the analgesic effect of Talwin Tablets has not been reported, and no significant changes in clinical laboratory parameters attributable to the drug have been reported.
- **Dependence rarely a problem:** during three years of wide clinical use, only a few cases of dependence have been reported. In prescribing Talwin for chronic use, the physician should take precautions to avoid increases in dose by the patient and to prevent the use of the drug in anticipation of pain rather than for the relief of pain.
- **Not subject to narcotic controls:** convenient to prescribe – day or night – even by phone.
- **Generally well tolerated by most patients:** infrequently cause decrease in blood pressure or tachycardia; rarely cause respiratory depression or urinary retention; seldom cause diarrhea or constipation. If dizziness, lightheadedness, nausea or vomiting are encountered, these effects tend to be self-limiting and to decrease after the first few doses. (See last page of this advertisement for a complete discussion of adverse reactions and a brief discussion of other Prescribing Information.)

50 mg. Tablets

**Talwin®**

brand of

**pentazocine** (as hydrochloride)

the long-range analgesic

# a new outlook in chronic pain

## of moderate to severe intensity



**Contraindications:** Talwin, brand of pentazocine (as hydrochloride), should not be administered to patients who are hypersensitive to it.

**Warnings:** *Head Injury and Increased Intracranial Pressure.* The respiratory depressant effects of Talwin and its potential for elevating cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions, or a preexisting increase in intracranial pressure. Furthermore, Talwin can produce effects which may obscure the clinical course of patients with head injuries. In such patients, Talwin must be used with extreme caution and only if its use is deemed essential.

*Usage in Pregnancy.* Safe use of Talwin during pregnancy (other than labor) has not been established. Animal reproduction studies have not demonstrated teratogenic or embryotoxic effects. However, Talwin should be administered to pregnant patients (other than labor) only when, in the judgment of the physician, the potential benefits outweigh the possible hazards. Patients receiving Talwin during labor have experienced no adverse effects other than those that occur with commonly used analgesics. Talwin should be used with caution in women delivering premature infants.

*Drug Dependence.* There have been instances of psychological and physical dependence on parenteral Talwin in patients with a history of drug abuse and, rarely, in patients without such a history. Abrupt discontinuance following the extended use of parenteral Talwin has resulted in withdrawal symptoms. There have been a few reports of dependence and of withdrawal symptoms with orally administered Talwin. Patients with a history of drug dependence should be under close supervision while receiving Talwin orally.

In prescribing Talwin for chronic use, the physician should take preeautions to avoid increases in dose by the patient and to prevent the use of the drug in anticipation of pain rather than for the relief of pain.

*Acute CNS Manifestations.* Patients receiving therapeutic doses of Talwin have experienced, in rare instances, hallucinations (usually visual), disorientation, and confusion which have cleared spontaneously within a period of hours. The mechanism of this reaction is not known. Such patients should be very closely observed and vital signs checked. If the drug is reinstituted it should be done with caution since the acute CNS manifestations may recur.

*Usage in Children.* Because clinical experience in children under 12 years of age is limited, administration of Talwin in this age group is not recommended.

*Ambulatory Patients.* Since sedation, dizziness, and occasional euphoria have been noted, ambulatory patients should be warned not to operate machinery, drive cars, or unnecessarily expose themselves to hazards.

**Precautions:** *Certain Respiratory Conditions.* Although respiratory depression has rarely been reported after oral administration of Talwin, the drug should be administered with caution to patients with respiratory depression from any cause, severe bronchial asthma and other obstructive respiratory conditions, or cyanosis.

*Impaired Renal or Hepatic Function.* Decreased metabolism of the drug by the liver in extensive liver disease may predispose to accentuation of side effects. Although laboratory tests have not indicated that Talwin causes or increases renal or hepatic impairment, the drug should be administered with caution to patients with such impairment.

*Myocardial Infarction.* As with all drugs, Talwin should be used with caution in patients with myocardial infarction who have nausea or vomiting.

*Biliary Surgery.* Until further experience is gained with the effects of Talwin on the sphincter of Oddi, the drug should be used with caution in patients about to undergo surgery of the biliary tract.

*Patients Receiving Narcotics.* Talwin is a mild narcotic antagonist. Some patients previously receiving narcotics have experienced mild withdrawal symptoms after receiving Talwin.

*CNS Effect.* Caution should be used when Talwin is administered to patients prone to seizures; seizures have occurred in a few such patients in association with the use of Talwin although no cause and effect relationship has been established.

**Adverse Reactions:** Reactions reported after oral administration of Talwin include *gastrointestinal:* nausea, vomiting; infrequently constipation; and rarely abdominal distress, anorexia, diarrhea. *CNS effects:* dizziness, lightheadedness, sedation, euphoria, headache; infrequently weakness, disturbed dreams, insomnia, syncope, visual blurring and focusing difficulty, hallucinations (see *Acute CNS Manifestations* under WARNINGS); and rarely tremor, irritability, excitement, tinnitus. *Autonomic:* sweating; infrequently flushing; and rarely chills. *Allergic:* infrequently rash; and rarely urticaria, edema of the face. *Cardiovascular:* infrequently decrease in blood pressure, tachycardia. *Other:* rarely respiratory depression, urinary retention.

**Dosage and Administration:** *Adults.* The usual initial adult dose is 1 tablet (50 mg.) every three or four hours. This may be increased to 2 tablets (100 mg.) when needed. Total daily dosage should not exceed 600 mg.

When antiinflammatory or antipyretic effects are desired in addition to analgesia, aspirin can be administered concomitantly with Talwin.

*Children Under 12 Years of Age.* Since clinical experience in children under 12 years of age is limited, administration of Talwin in this age group is not recommended.

*Duration of Therapy.* Patients with chronic pain who have received Talwin orally for prolonged periods have not experienced withdrawal symptoms even when administration was abruptly discontinued (see WARNINGS). No tolerance to the analgesic effect has been observed. Laboratory tests of blood and urine and of liver and kidney function have revealed no significant abnormalities after prolonged administration of Talwin.

**Overdosage:** *Manifestations.* Clinical experience with Talwin overdosage has been insufficient to define the signs of this condition.

*Treatment.* Oxygen, intravenous fluids, vasopressors, and other supportive measures should be employed as indicated. Assisted or controlled ventilation should also be considered. Although nalorphine and levallorphan are *not* effective antidotes for respiratory depression due to overdosage or unusual sensitivity to Talwin, parenteral naloxone (Narcan®, available through Endo Laboratories) is a specific and effective antagonist. If naloxone is not available, parenteral administration of the analeptic, methylphenidate (Ritalin®), may be of value if respiratory depression occurs.

Talwin is not subject to narcotie controls.

**How Supplied:** Tablets, peach color, scored. Each tablet contains Talwin (brand of pentazocine) as hydrochloride equivalent to 50 mg. base. Bottles of 100.

Winthrop Winthrop Laboratories, New York, N. Y. 10016 (1583)

**50 mg. Tablets**

# Talwin®

brand of

## pentazocine (as hydrochloride)

## the long-range analgesic

# Literary Hemorrhoids

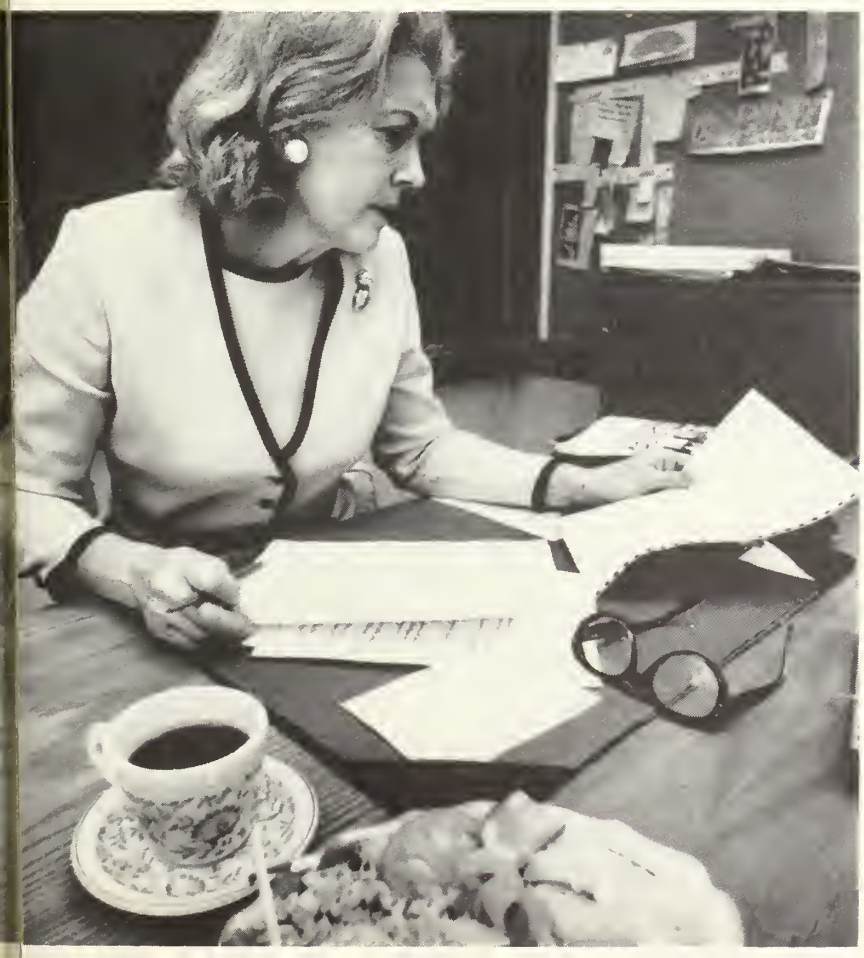
rs. S.R., 47, high school English acher. A history of anorectal ain and burning of several ars' duration. On and off eight reducing diets, the ufficient bulk of which has ggravated a chronic nstipation problem. Sub- quent straining at stool has ecipitated an acute isode of internal-external morrhoids.



a typical proctological patient

to help relieve the pain, itching, burning associated with this and similar anorectal conditions

prescribe



**Anusol-HC®** hemorrhoidal suppositories with hydrocortisone acetate

Each suppository contains hydrocortisone acetate 10 mg, bismuth subgallate 2.25%, bismuth resorcin compound 1.75%, benzyl benzoate 1.2%, Peruvian balsam 1.8%, zinc oxide 11.0%, and boric acid 5.0%, plus the following inactive ingredients: bismuth subiodide, calcium phosphate, and coloring in a bland hydrogenated vegetable oil base.

**Precaution** Prolonged or excessive use of Anusol-HC might produce systemic corticosteroid effects. Symptomatic relief should not delay definitive diagnosis or treatment.

**Dosage and Administration** Anusol-HC: One suppository in the morning and one at bedtime for 3 to 6 days or until the inflammation subsides. Regular Anusol: One suppository in the morning, one at bedtime, and one immediately following each evacuation.

And for long-term patient comfort...recommend **Anusol®** hemorrhoidal suppositories. Each suppository contains the ingredients of Anusol-HC without the hydrocortisone.

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Division, Warner-Lambert Company
Morris Plains, New Jersey 07950
ANGP-23 Rev.

# When you prescribed Orinase®

## (tolbutamide, Upjohn)

# 14 years ago, you had to rely on our experience.

An orally active hypoglycemic agent principally indicated in relatively mild, adult, maturity-onset, non-ketotic diabetes; also, as a supplement to insulin therapy in selected diabetic patients, it may effect a stabilization of labile diabetes and reduce insulin requirements. Certain patients intolerant to chlorpropamide therapy at usual therapeutic doses have subsequently been successfully managed with Orinase (tolbutamide).

Use in mild asymptomatic diabetic patients with abnormal glucose tolerance tests not responding to diet therapy may result in improvement of the glucose tolerance test.

Use in conjunction with phenformin is indicated when optimal control is not obtained with Orinase or phenformin alone.

**Contraindications:** Orinase alone is not effective in juvenile or growth-onset diabetes nor in unstable brittle diabetes where insulin therapy is required.

Orinase should not be used: when diabetes is complicated by acidosis, ketosis, or coma, or when a history of repeated bouts of acidosis or coma is obtained; in the presence of other acute complications such as fever, severe trauma, or infections; and in patients with severe renal insufficiency. Insulin is indicated in these circumstances.

**Pregnancy Warning:** The safety and usefulness of Orinase during pregnancy has not been established either from the standpoint of the mother or the fetus. Animal studies have demonstrated feticidal and teratogenic effects of doses of 1,000-2,500 mg./kg./day, but application to human subjects unknown. Therefore, Orinase is not recommended for the pregnant diabetic, and when administering Orinase to women of childbearing age, these facts should be borne in mind.

**Precautions:** Diagnostic and therapeutic measures necessary for optimal control with insulin are also necessary with Orinase. The patient on Orinase must be fully instructed: about the nature of his disease; how to prevent and detect complications; how to control his condition; not to neglect dietary restrictions, develop a careless attitude or disregard instructions relative to body weight, exercise, personal hygiene, and avoidance of infection; how to recognize and counteract impending hypoglycemia; how and when to test for glycosuria and ketonuria; how to use insulin; and to report to the physician immediately if he does not feel as well as usual.

Caution, very close observation, and careful adjustment of dose are necessary when: insulin is withdrawn during the trial period in order to avoid ketosis, acidosis, and coma; thiazide diuretics are administered which may result in aggravation of diabetic state and increased tolbutamide requirement, temporary loss of control, or even secondary failure; treating patients with impaired hepatic and/or renal function and debilitated, malnourished, or semistarved patients in order to avoid severe hypoglycemia which may require corrective therapy over several days; and treating patients with severe trauma, infection, or surgical procedures where temporary return to insulin or addition of insulin may be necessary. Response to tolbutamide is diminished in patients receiving therapy with beta blocking agents.

As some diabetics are not suitable candidates, it is essential that the physician familiarize himself with the indications, limits of application, and selection of patients for therapy.

Patients must be under continuous medical supervision, and during the initial test period should communicate with the physi-

# Today you have your own.

If you're around 40 or 45, you've ably had quite a bit of clinical experience Orinase.

Maybe as much as 14 years.

And that means you know quite a bout it.

On the one hand, you know that diet weight control are the initial and essential dations for the management of adult- t, non-ketotic diabetes. When these sures prove satisfactory, no additional apy is indicated. On the other hand, you v that if these measures fail the addition of Orinase to the regimen can often help lower blood sugar. Orinase lowers blood sugar as effectively today as it did when you first prescribed it.

You also know the importance of close monitoring of the patient. Although uncommon, severe hypoglycemia may occur if the dosage is not tailored to suit his requirements.

In short, Orinase is a drug you're familiar with, and probably have confidence in.

And that may be the best recommendation Orinase can have.

## Orinase®

0.5 g. tablets

(tolbutamide, Upjohn)

daily, and during the first month report at least once weekly hysical examination and definitive evaluation. After a month, inations are recommended monthly or as indicated. Appearance of ketonuria, increase in glycosuria, unsatisfactory ring or persistent elevation of blood sugar, or failure to n and hold clinical improvement indicate nonresponsive- to Orinase (tolbutamide). Orinase does not obviate need for taining standard diet regulation. Uncooperative patients ld be considered unsuitable for therapy. Prescriptions should efilled only on specific instruction of physician. In treating asymptomatic diabetic patients with abnormal glucose ance, glucose tolerance tests should be obtained at three- -month intervals. Orinase is not an oral insulin or a substi- for insulin and must not be used as sole therapy in juvenile etes or in diabetes complicated by acidosis or coma where in is indispensable.

phenformin is prescribed in combination with Orinase, appriate package literature should be consulted.

**verse Reactions:** Severe hypoglycemia, though uncommon, occur and may mimic acute neurologic disorders such as oral thrombosis. Certain factors such as hepatic and renal ase, malnutrition, advanced age, alcohol ingestion, and nal and pituitary insufficiency may predispose to hypoglya and certain drugs such as insulin, phenformin, sulfona- s, oxyphenbutazone, salicylates, probenecid, monamine ase inhibitors, phenylbutazone, bishydroxycoumarin, and yramidol may prolong or enhance the action of Orinase and ease risk of hypoglycemia. Orinase long-term therapy has reported to cause reduction in RAI uptake without producing clinical hypothyroidism or thyroid enlargement and at high doses is mildly goitrogenic in animals. Photosensitivity reactions, disulfiram-like reactions after alcohol ingestion, and false-positive tests for urine albumin have been reported.

Although usually not serious, gastrointestinal disturbances (nausea, epigastric fullness, and heartburn) and headache appear to be dose related and frequently disappear with reduction of dose or administration with meals. Allergic skin reactions (pruritus, erythema, urticaria, and morbilliform or maculopapular eruptions) are transient, usually not serious, and frequently disappear with continued administration. Orinase should be discontinued if skin reactions persist. Recent reports indicate that long-term use of Orinase has no appreciable effect on body weight.

Orinase appears to be remarkably free from gross clinical toxicity: crystalluria or other renal abnormalities have not been observed; incidence of liver dysfunction is remarkably low and jaundice has been rare and cleared readily on discontinuation of drug (carcinoma of the pancreas or other biliary obstruction should be ruled out in persistent jaundice); leukopenia; agranulocytosis; thrombocytopenia; hemolytic anemia; aplastic anemia; pancytopenia; and hepatic porphyria and porphyria cutanea tarda have been reported.

**Supplied:** *0.5 g. Tablets*—bottles of 50, 200, 500, and 1,000, and cartons of 100 in foil strips.

**For additional product information, see your Upjohn representative or consult the package insert.**

The Upjohn Company, Kalamazoo, Michigan 49001

Upjohn

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# ALCOHOLISM

## DRUG ADDICTION

### And Other Drug Dependency Conditions

*Willingway Hospital*



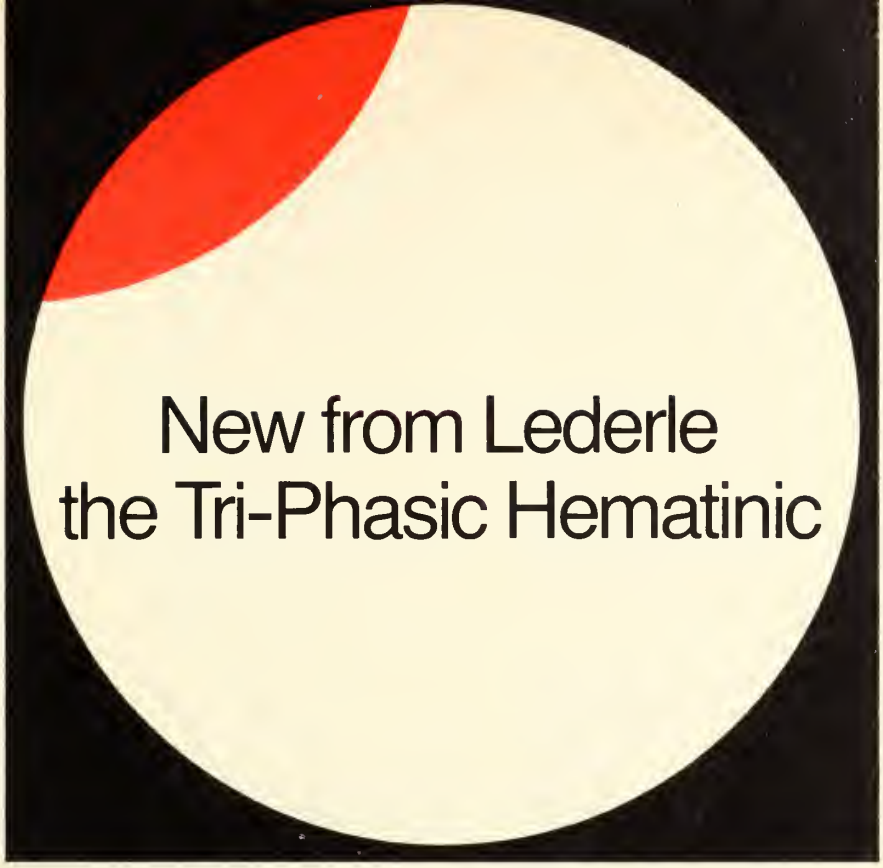

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Specifically formulated with
vitamins and minerals important
in the treatment of anemia



# PHASE 1
## Enhanced Absorption

Each tablet provides 115 mg elemental iron as the highly absorbable ferrous fumarate *plus* 600 mg of Vitamin C.



# PHASE 2
## Erythrocyte Formation

Each tablet provides Vitamin $B_{12}$ (25 mcg) and Folic Acid (1 mg) to replace deficiencies.



# PHASE 3
## Premature Hemolysis

Each tablet provides Vitamin E, which may be involved in lessening red blood cell fragility.



For common anemias
as well as problem ones

# TriHEMIC™ 600
## HEMATINIC TABLETS

Tri-Phasic Hematinic with 600 mg Vitamin C PLUS Vitamin E

| Each tablet contains: | |
|---|---|
| Vitamin C (Ascorbic Acid) | 600 mg. |
| Vitamin $B_{12}$ (Cobalamin Concentrate, N.F.) | 25 mcg. |
| Intrinsic Factor Concentrate | 75 mg. |
| Folic Acid | 1 mg. |
| Vitamin E (*d*-Alpha Tocopheryl Acid Succinate) | 30 Int. Units |
| Elemental Iron (as present in 350 mg. of Ferrous Fumarate) | 115 mg. |
| Dioctyl Sodium Sulfosuccinate U.S.P. | 50 mg. |

Dosage: One Tablet Daily.
Available in Bottles of 30 Tablets.
On Your Prescription Only.



**Precautions:** Some patients affected with pernicious anemia may not respond to orally administered Vitamin $B_{12}$ with intrinsic factor concentrate and there is no known way to predict which patients will respond or which patients may cease to respond. Periodic examinations and laboratory studies of pernicious anemia patients are essential and recommended. If any symptoms of intolerance occur, discontinue drug temporarily or permanently. Folic acid, especially in doses above 1 mg. daily, may obscure pernicious anemia, in that hematologic remission may occur while neurological manifestations remain progressive.

**Adverse Reactions:** G.I.: nausea, vomiting, diarrhea, abdominal pain. Skin rashes may occur. Such reactions may necessitate temporary or permanent changes in dosage or usage. Allergic sensitization has been reported following both oral and parenteral administration of folic acid.

# TriHEMIC™ 600
## HEMATINIC TABLETS

Tri-Phasic Hematinic with 600 mg Vitamin C PLUS Vitamin E

Specifically formulated with vitamins and minerals important in the treatment of anemias, plus a stool softener to counteract the constipating effects of iron.

LEDERLE LABORATORIES

Lederle A Division of American Cyanamid Company, Pearl River, New York 10965

421-1

# It's over 30. Trust it.




Remarkably well tolerated.
Highly predictable.
Prompt, smooth, gentle action.
Saves your patients money.

## Butisol SODIUM®
## (SODIUM BUTABARBITAL)

Tablets 15 mg., 30 mg.
Elixir 30 mg./5 cc. (alcohol 7%)

**Indications:** Useful as a daytime sedative when mild sedation is required for relief of symptoms of anxiety or tension resulting from emotional, physical, or situational stress.
**Contraindications:** Porphyria or sensitivity to barbiturates. **Warning:** May be habit forming.
**Precautions:** Exercise caution in moderate to severe hepatic disease. Elderly or debilitated patients may react with marked excitement or depression. **Adverse Reactions:** Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and systemic disturbances are seldom seen.
**Usual Adult Dosage:** For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d.
**Also available:** BUTICAPS® [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg.,

McNeil Laboratories, Inc., Fort Washington, Pa. 19034

McNEIL

# Pinworm therapy is often a family affair





**Contraindications:** History of hypersensitivity to thiabendazole.
**Warnings:** If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.
**Precautions:** Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
**Adverse Reactions:** Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live Ascaris in the mouth and nose. Hypersensitivity reactions

# A New Dosage Form:

## Chewable Tablets 500 mg

## Mintezol®

(THIABENDAZOLE | MSD)



so easy to take
everyone in the family
will keep to the
regimen you prescribe

include: fever, facial flush, chills, conjunctival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (including Stevens-Johnson syndrome), and lymphadenopathy.

**Supplied:** Chewable tablets, containing 500 mg thiabendazole, in boxes of 36, strip packaged, individually foil wrapped; Suspension, containing 500 mg thiabendazole per 5 cc, in bottles of 120 cc.

*For more detailed information, consult your MSD representative or see the Direction Circular. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486*

MSD
MERCK SHARP & DOHME

addendum

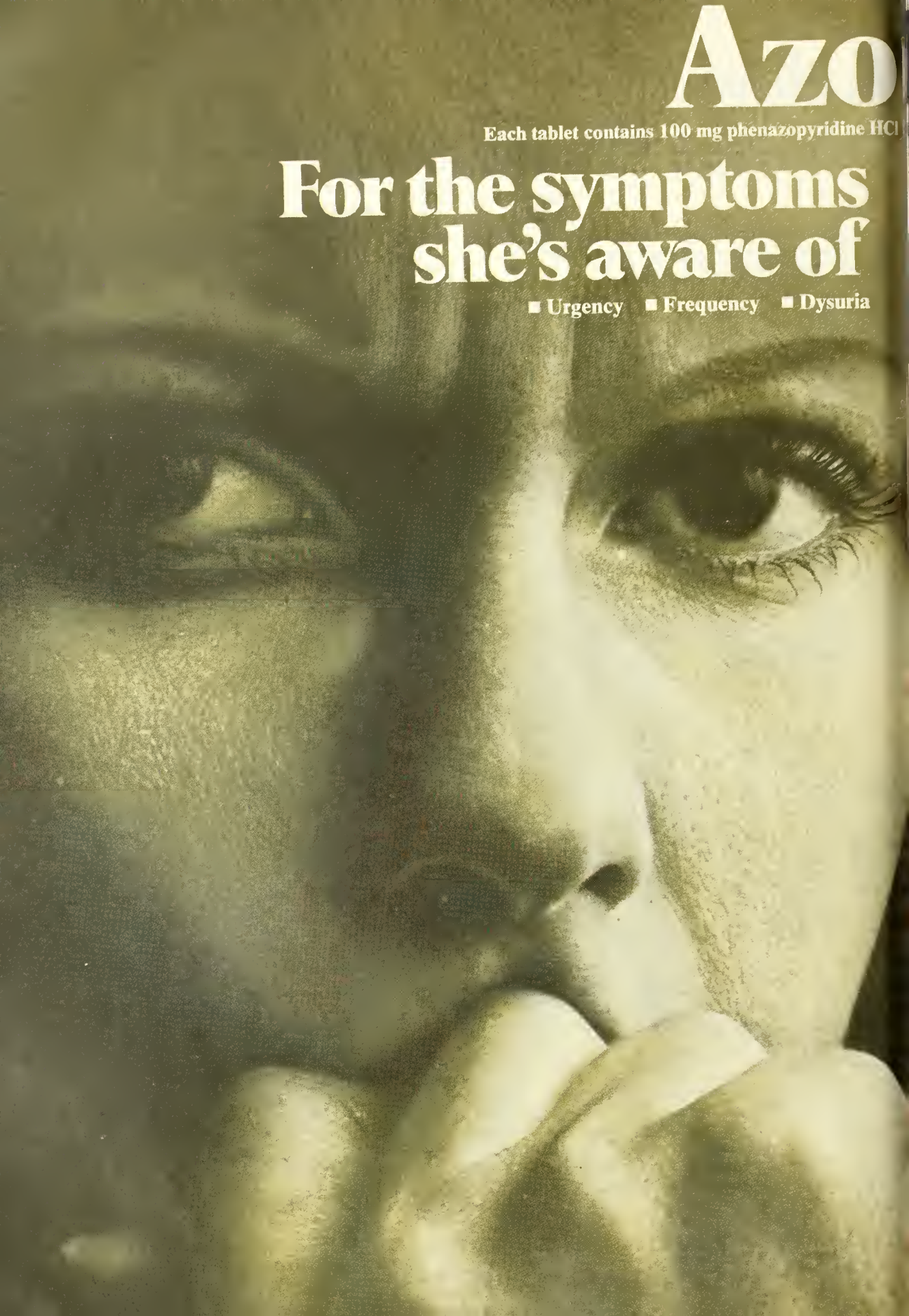
## INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infestations, whether encountered singly or in combination. Dosages are weight related; therefore, a weight-dose chart is included in the Direction Circular for your convenience when writing a prescription. MINTEZOL should be given after meals if possible.

| INDICATIONS | DOSAGE (1st Day) | ADDITIONAL REGIMEN | COMMENTS |
|---|---|---|---|
| Pinworm disease | Two doses of 1 tablet/50 lb | Repeat 7 days later | This regimen is designed to reduce the risk of reinfection. However, if not practical, repeat the regimen the next day. |
| Threadworm,* large roundworm,* hookworm,* and whipworm* disease | Two doses of 1 tablet/50 lb | Repeat the next day | Alternatively, a single dose of 2 tablets/50 lb may be given. However, a higher incidence of side effects should be expected. |
| Creeping eruption | Two doses of 1 tablet/50 lb | Repeat the next day | If active lesions are still present 2 days after completing this regimen, a second course is recommended. |
| Symptoms of trichinosis* during the invasive phase of the disease | Two doses of 1 tablet/50 lb | Repeat for 2 to 4 successive days | The optimal dosage for the treatment of trichinosis has not been established. |

The recommended maximal daily dosage is 3 g (6 tablets).

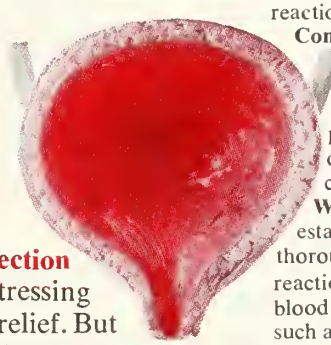
*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.


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**Indications:** In adults, urinary tract infections complicated by pain (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella-Aerobacter, Staphylococcus aureus, Proteus mirabilis,* and, less frequently, *Proteus vulgaris*) in the absence of obstructive uropathy or foreign bodies. *Important Note:* Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response. Add aminobenzoic acid to culture media for patients already taking sulfonamides. Increasing frequency of resistant organisms currently is a limitation of the usefulness of antibacterial agents. Blood levels should be measured in patients receiving sulfonamides for serious infections, since there may be wide variations with identical doses; 12 to 15 mg/100 ml is considered optimal for serious infections; 20 mg/100 ml should be the maximum total sulfonamide level, as adverse reactions occur more frequently above this level.

**Contraindications:** Children below age 12; sulfonamide hypersensitivity; pregnancy at term and during nursing period. Contraindicated in glomerulonephritis, severe hepatitis, uremia, and pyelonephritis of pregnancy with gastrointestinal disturbances, because of phenazopyridine HCl component.

**Warnings:** Safe use in pregnancy has not been established, and teratogenicity potential has not been thoroughly investigated. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported; clinical signs such as sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. Complete blood counts and urinalysis with careful microscopic examination should be performed frequently during sulfonamide therapy.

**Precautions:** Use with caution in patients with impaired renal or hepatic function, severe allergy, bronchial asthma and in glucose-6-phosphate dehydrogenase-deficient individuals. In the latter, hemolysis, a frequently dose-related reaction, may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias:* agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia; *allergic reactions:* erythema multiforme (Stevens-Johnson syndrome), skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis; *gastrointestinal reactions:* nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis; *C.N.S. reactions:* headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia; and *miscellaneous reactions:* drug fever, chills, toxic nephrosis with oliguria and anuria, polyarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide and thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

**Dosage:** Usual adult dosage for acute, painful phase of urinary tract infection is 4 tablets initially, then 2 tablets morning and evening. If pain persists beyond seven days, causes other than infection should be sought. After relief has been obtained, continued treatment with Gantanol (sulfamethoxazole) may be considered.

*NOTE:* Patients should be told that the orange-red dye (phenazopyridine HCl) will color the urine soon after ingestion.

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**Warnings:** When weight loss is unsatisfactory the recommended dosage should not be increased in an attempt to obtain increased anorexigenic effect; discontinue the drug. Tolerance to the anorectic effect may develop. Drowsiness or stimulation may occur and may impair ability to engage in potentially hazardous activities such as operating machinery, driving a motor vehicle, or performing tasks requiring precision work or critical judgment. Therefore, such patients should be cautioned accordingly. Caution must be exercised if Pre-Sate (chlorphentermine hydrochloride) is used concomitantly with other central nervous system stimulants. There have been reports of pulmonary hypertension in patients who received related drugs.

**Drug Dependence:** Drugs of this type have a potential for abuse. Patients have been known to increase the intake of drugs of this type to many times the dosages recommended. In long-term controlled studies with high dosages of Pre-Sate, abrupt cessation did not result in symptoms of withdrawal.

**Usage In Pregnancy:** The safety of Pre-Sate (chlorphentermine hydrochloride) in human pregnancy has not yet been clearly established. The use of anorectic agents by women who are or who may become pregnant, and especially those in the first trimester of pregnancy, requires that the potential benefit be weighed against the possible hazard to mother and child. Use of the drug during lactation is not recommended. Mammalian reproductive and teratogenic studies with high multiples of the human dose have been negative.

**Usage In Children:** Not recommended for use in children under 12 years of age.

**Precautions:** In patients with diabetes mellitus there may be alteration of insulin requirements due to dietary restrictions and weight loss. Pre-Sate (chlorphentermine hydrochloride) should be used with caution when obesity complicates the management of patients with mild to moderate cardiovascular disease or diabetes mellitus, and only when dietary restriction alone has been unsuccessful in achieving desired weight reduction. In prescribing this drug for obese patients in whom it is undesirable to introduce CNS stimulation or pressor effect, the physician should be alert to the individual who may be overly sensitive to this drug. Psychologic disturbances have been reported in patients who concomitantly receive an anorexic agent and a restrictive dietary regimen.

**Adverse Reactions: Central Nervous System:** When CNS side effects occur, they are most often manifested as drowsiness or sedation or overstimulation and restlessness. Insomnia, dizziness, headache, euphoria, dysphoria, and tremor may also occur. Psychotic episodes, although rare, have been noted even at recommended doses. **Cardiovascular:** tachycardia, palpitation, elevation of blood pressure. **Gastrointestinal:** nausea and vomiting, diarrhea, unpleasant taste, constipation. **Endocrine:** changes in libido, impotence. **Autonomic:** dryness of mouth, sweating, mydriasis. **Allergic:** urticaria **Genitourinary:** diuresis and, rarely, difficulty in initiating micturition **Others:** Paresthesias, sural spasms.

**Dosage and Administration:** The recommended adult daily dose of Pre-Sate (chlorphentermine hydrochloride) is one tablet (equivalent to 65 mg chlorphentermine base) taken after the first meal of the day. Use in children under 12 not recommended.

**Overdosage: Manifestations:** Restlessness, confusion, assaultiveness, hallucinations, panic states, and hyperpyrexia may be manifestations of acute intoxication with anorectic agents. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension, or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Fatal poisoning usually terminates in convulsions and coma.

**Management:** Management of acute intoxication with sympathomimetic amines is largely symptomatic and supportive and often includes sedation with a barbiturate. If hypertension is marked, the use of a nitrate or rapidly acting alpha-receptor blocking agent should be considered. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendations in this regard.

**How Supplied:** Each Pre-Sate (chlorphentermine hydrochloride) tablet contains the equivalent of 65 mg chlorphentermine base; bottles of 100 and 1000 tablets.

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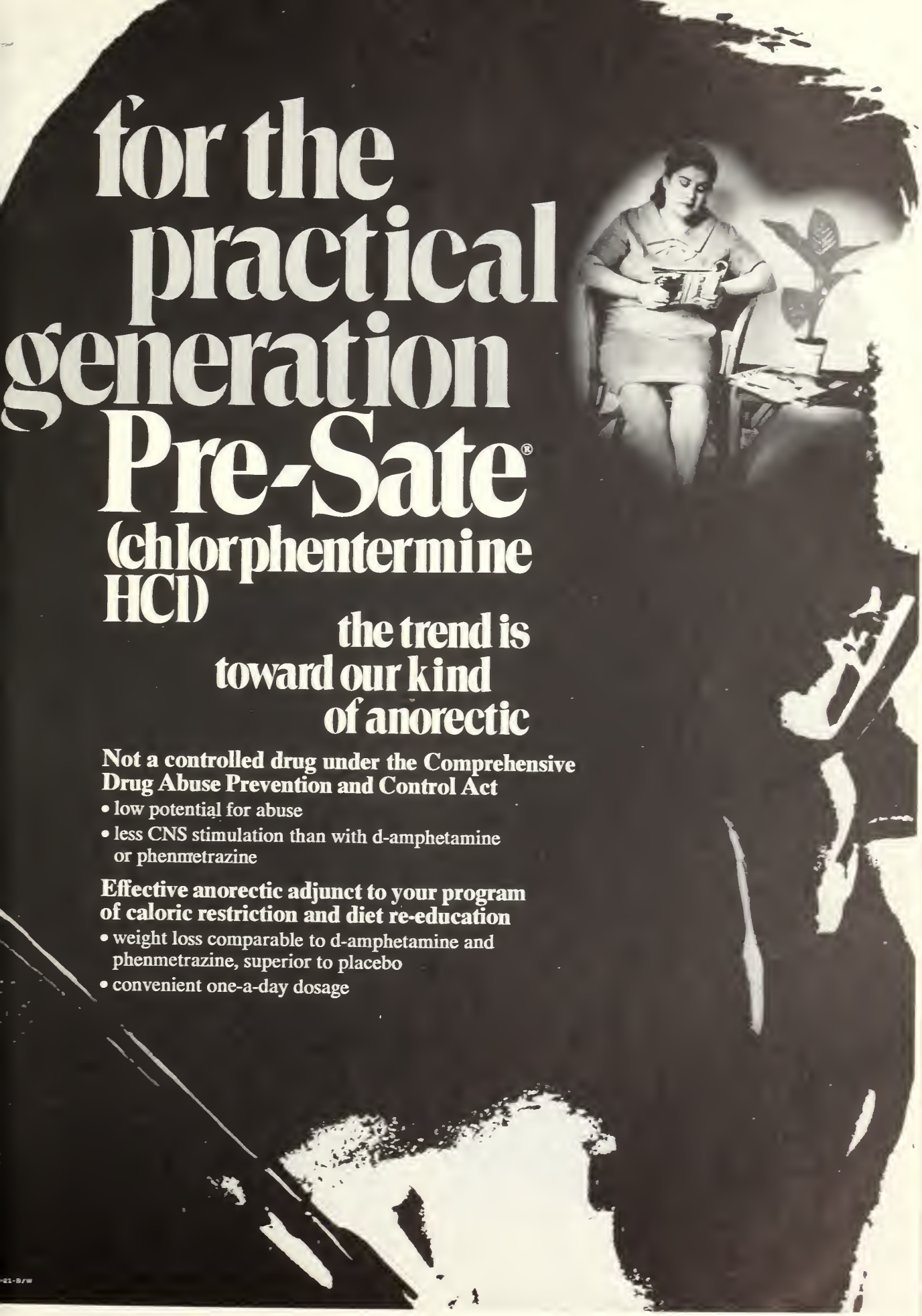
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VOLUME 68 MAY, 1972 NUMBER 5

# DRIP INFUSION PYELOGRAPHY WITH DELAYED DRAINAGE FILMS IN URINARY TRACT OBSTRUCTION

J. ERNEST LATHEM, M.D.
R. MAXIE McCOY, M.D.
Greenville, S. C.

The technique of drip infusion excretory urography and its advantages have been well documented.[1-3] A similar and valuable technique of repeated injections has also been shown to be of considerable value in many instances. This technique was first conceived by Dr. H. H. Forsythe Winchell and Dr. J. A. Arata in 1964.[4] Since that time, the technique has been standardized and now is in widespread use.

Drip infusion pyelography has demonstrated good visualization in special cases in which routine amounts of contrast solution result in inadequate visualization.[5] Prominent among such clinical problems are urinary tract trauma, uremia, and undiagnosed abdominal pain. In addition to the collecting system, drip infusion nephrography has been recommended for improved visualization of the renal position, size and shape.

We recommend drip infusion pyelography, with exposure of delayed drainage films, to establish the site of ureteral obstruction. Delayed drainage films extending up to 72 hours have been helpful in locating the exact site of obstruction, thus restricting instru-



**Figure 1 — A representative film from an IVP using 30 cc of contrast material (Case One)**

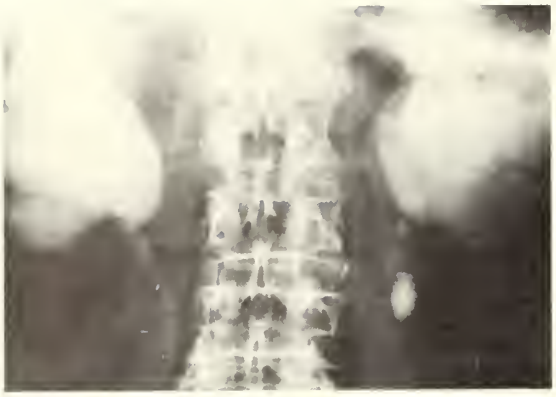


**Figure 2 — Kidney area of an eight hour delayed film using 300 cc of 25 per cent Hypaque (Case One)**

mentation in patients with suspected ureteral obstruction.

## Method

Thirty-five patients with symptoms and laboratory findings suggesting ureteral colic were studied. These patients received an infusion of 300 ml of 25 per cent Hypaque during a 15 minute period. First films were obtained five minutes after the infusion was complete and exposures were continued at intervals until all contrast material was excreted or a diagnosis was obtained.

## Cases

Case 1: A 78 year old male with a history of persistent nausea and vomiting had a 25 pound weight loss over a three week period. The initial BUN was 57 mg/100. An IVP using 30 cc of contrast material was given at a neighboring hospital (Figure 1.) A diagnosis of nonvisualization of the kidney with probable left ureteral stone and calcified lymph node in the left periaortic region was made. The patient was transferred and a repeat BUN was 64 mg/100. An infusion pyelogram using 300 ml of 25 per cent Hypaque was done (Figures 2 and 3.) The "calcified lymph node" was found to be a large stone, and bilateral hydro-ureterosis secondary to urinary tract obstruction was confirmed. Delayed films through eight hours (Figure 3) were needed to obtain the proper diagnosis. The ureteral calculus was removed, and postoperative convalescence was satisfactory. The patient also had advanced carcinoma of the prostate, with infiltration accounting for the ureteral dilatation.

Case 2: A 50 year old male had an acute onset of right flank pain and hematuria. An initial diagnosis of a ureteral stone was made. An IVP three years pre-



**Figure 3 — Same as Figure 2, except kidney, ureter and bladder area visible**



**Figure 4 — Thirty minute post infusion film (Case Two)**

viously had been normal. The infusion pyelogram with delayed drainage films over a 12 hour period confirmed ureteral obstruction and hydronephrosis (Figures 4-7). The site of obstruction was in the mid-ureter, and a filling defect also was noted in the proximal ureter. Cytological examination of the urine revealed abnormal cells and leukoplakia of the calyceal system and ureter.

Case 3: A 43 year old male developed acute left flank pain and discomfort with microscopic hematuria. An infusion pyelogram revealed delayed drainage of the left kidney to the extent that at the end of 20 minutes only a nephrogram was visible (Figure 8.) Delayed films through 12 hours were necessary to confirm distal ureteral obstruction (Figures 9 and 10.) The distal ureteral stone was spontaneously passed two days later. This is an excellent example of confirming the site of obstruction and thus avoiding cystoscopy and retrograde pyelography.

Case 4: A 36 year old male was seen in consultation complaining of increasingly severe left lower quadrant pain which had been present for approximately 24 hours. Microscopic hematuria was present, and an infusion pyelogram was done. Initial films showed delayed drainage on the left side, and an upright film revealed obstruction in the distal ureter (Figure 11.) The patient subsequently passed this small distal ureteral stone without surgical intervention, cystoscopy or retrograde pyelography.



**Figure 6 — Twelve hour post infusion film (Case Two)**



**Figure 5 — Eight hour post infusion film (Case Two)**



**Figure 7 — Eighteen hour post infusion film (Case Two)**



Figure 8 — Twenty minute film (Case Three)



Figure 9 — Two hour film (Case Three)



Figure 10 — Twelve Hour Film (Case Three)



Figure 11 — Three hour film (Case Four)



Figure 12 — Thirty minute film (Case Five)

Case 5: A 60 year old male had an onset of left flank pain 18 hours before being seen in consultation. He had microscopic hematuria. The 30 minute film of his infusion pyelogram (Figure 12) reveals a nephrogram on the left side with a normal right upper urinary system. The two-hour film (Figure 13) shows increasing density of the nephrogram on the left side. At four hours, on a post voiding film (Figure 14), distal ureteral obstruction on the left side can be seen. Some residual contrast material in the bladder is also noted. At eight hours (Figure 15) there is dilatation of the left calyceal system and ureter. A diagnosis of small distal left ureteral stone and partial lower urinary tract obstruction secondary to prostatic enlargement was made. This stone was passed without surgical intervention. The patient later had a retropubic prostatectomy because of lower urinary tract obstructive symptoms and residual urine, as demonstrated by the above pyelogram.

Case 6: A 32 year old male was admitted to the hospital with symptoms of left ureteral colic. The infusion pyelogram revealed a stone present in the distal left ureter and a duplicated collecting system on the right side. The 60 minute film (Figure 16) gave an excellent anatomical demonstration of the duplication which revealed both ureters joining at the level of the iliac vessels. The patient subsequently had the ureteral stone rmoved, and no treatment was indicated for the duplicate collecting system on the right side.

## Results

Thirty-five patients with findings suggesting ureteral obstruction were evaluated in this study. Of these, nine had the exact diagnosis confirmed during the initial 20 minute period of evaluation. Two additional patients had the diagnosis confirmed during the first three hours of follow-up. Twenty others had a definitive diagnosis during the three to 24 hour period. Three required over 24 hours. In one case, the site of obstruction could not be localized by this technique.

No complications were encountered during the infusion and immediate postinfusion period. No serious allergic reactions were present.

## Discussion

Drip infusion urography with delayed films has enabled us to localize the site of ureteral obstruction in patients that previously required retrograde pyelograms in order to



Figure 13 — Two hour film (Case Five)



Figure 14 — Four hour film (Case Five)



Figure 15 — Eight hour film (Case Five)

establish the site of obstruction. This technique has been particularly useful in our geographic location where ureteral calculi are more common than in any other area in the country.[6] Many patients with typical ureteral colic show only nephrograms during the period of routine intravenous pyelogram evaluation.

Drip infusion urography has enabled us to diagnose the precise site of ureteral obstruction. As a result, one can more accurately follow the patient's clinical progress and plan for any indicated surgery. Retrograde pyelograms (and the potential hazard associated with this procedure) are rarely necessary now that drip infusion urography with delayed drainage films is being used routinely in all patients with symptoms of ureteral obstruction.

We have confirmed the findings of previous authors indicating well outlined anatomical architecture of the upper urinary tracts and have, in addition reaped benefits from following these patients for definitive evaluation of the ureter.



Figure 16 — Sixty minute film (Case Six)

**Summary**

The value of drip infusion urography is well demonstrated. Delayed films using this technique have enabled us to localize the site of ureteral obstruction in cases that would have required retrograde pyelograms using "routine" dosages and the usual timing of intravenous pyelography. The need for retrograde pyelograms to establish the site of obstruction using this technique is almost nonexistent.

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## PHYSICIAN FILES FRAUDULENT APPLICATIONS

A physician charged with fraud under the Medicare regulations could be prosecuted under one of two possible statutes, according to a federal appellate court.

The physician was accused of filing false and fraudulent applications for payment of professional services rendered Medicare patients under the Social Security Act. He was prosecuted under a provision which made it a felony to give false information to an agency of the U.S. Government.

The physician claimed that he should have been prosecuted under another statute which made it a misdemeanor to give false information for use in determining rights to payment under certain Medicare benefits.

In affirming the conviction, the court held that the facts of the offense indicated that the physician could have been charged under either statute. Therefore, it was not error for the prosecutor to bring the charges under the felony statute.—*U.S. v. Chakmakis*, 449 F.2d 315 (C.A.5, July 13, 1971; rehearing denied, Nov. 23, 1971)

# SELF-INFLICTED OCULAR INJURY ASSOCIATED WITH DRUG USE

R. BUCKLAND THOMAS, M. D.* and
DAVID H. FULLER, M.D.**

Innumerable problems have arisen with the advent of rather extensive usage of psychedelic drugs, and somewhat unique among these have been cases of self-enucleation of eyes. Rosen and Hoffman[1] reported two cases of self-enucleation following LSD usage, and in their literature review found only 10 prior cases not associated with LSD usage had been reported of self-enucleation. It is likely that more cases have occurred associated with LSD usage and not yet reported as, for example, a similar problem was described in the non-medical news media.[2] Both of the above reported cases involved young individuals who enucleated their right eyes. It was postulated that both had experienced guilt in relation to sexual experiences prior to psychotic episodes associated with LSD which subsequently led to their self-enucleation. Both referred to the Biblical Verse: "And if thy right eye offend thee, pluck it out and cast it from thee. . ." (Matthew 5:29), as explanation for their behavior.

This case report presents certain similarities to the above reported cases, however, this patient enucleated both eyes, and presented the additional very real threat to cut off his right hand as well. The event occurred in connection with drug usage and was associated with a psychotic episode precipitated by LSD usage. After initial detoxification and surgical care, a severe reactive depression of psychotic proportions developed leading to the concern that total suicide rather than focal mutilation was imminent. The treatment approach and outcome is summarized below.

**Case Report:** This 20-year-old single male college student was admitted to the Hall Psychiatric Institute with a history of drug use, including psychedelics, over a three-year period. Upon admission he was actively psychotic, and this was felt to have been chemically induced as a result of LSD usage. Prior to drug usage he was deseribed as demonstrating adequate development of social and interpersonal skills, as well as adequate academic achievement. Approximately 3 years prior to admission, and associated with drug usage, he experienced an episode in which he was restrained by the police. At that time he apparently was found running in circles and yelling, and in the ensuing struggle sustained chemical burns from either Mace or tear gas about the eyes and face. Over the period of drug usage he became more preoccupied with religious thoughts and showed increasing psychiatric symptoms, including ideas of reference. For several months prior

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to admission he became involved with various sub-cultural sects and began verbalizing concern over confusion about his religious doctrinaire, as well as demonstrating pre-occupation with sexual matters. This eventually led to a private hospitalization three months before his admission to the Institute, at which time the patient had thoughts of blinding himself and of cutting off his right hand. He connected these thoughts to guilt feelings about sex and to the Biblical reference mentioned above (Matthew 5:29, 30: "And if thy right eye offend thee, pluck it out and cast it from thee, and if thy right hand offend thee, cut it off and cast it from thee"). The patient improved after several weeks of private hospitalization, but after returning home, he again showed inappropriate behavior; and about two weeks before his admission to the Institute enucleated both eyes. The event occurred at home early one morning with initial enucleation of one eye. When a parent discovered this and went for aid, the patient fled from the home and enucleated his remaining eye. He was then readmitted to a local hospital for immediate surgical and psychiatric care until transfer to this hospital. In the beginning phase of treatment at his local hospital and at the Hall Institute he continued to verbalize wishes to cut off his right hand. This was considered a very real problem in formulating his treatment plan. With adjunctive use of antidepressants and increasing amounts of phenothiazines he began to show improvement. Initial improvement appeared to be partially associated with secondary gain attendant to publicity surrounding the event: this led to more than usual attentiveness to the patient from a variety of people including other patients. However, after several weeks, a severe reactive depression developed which assumed psychotic proportions as he seemed to develop full awareness of the implications of his prior action and the permanent loss of his eyesight. At this point he was felt to be actively suicidal and unable to work through these problems with the therapies being utilized. He was then given a series of electroshock treatments, following which he showed gradual improvement to the point of being able to continue with individual and group psychotherapies in addition to a rehabilitation program that included instruction provided by the State Commission for the Blind. After a total hospitalization of approximately seven and one half months, he improved sufficiently to be discharged for further training at a school for the blind in another state. At release, the patient appeared better integrated and showed no significant evidence of depression. His medications at discharge included phenothiazines and an anti-depressant. Several weeks after discharge, the patient was reported to be adjusting well.

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# SOME IMMUNOLOGIC CONSIDERATIONS OF CHRONIC PULMONARY INFECTION IN CYSTIC FIBROSIS

ROBERT R. M. GIFFORD, LT, MC, USNR*

Cystic fibrosis of the pancreas is a disease of protean manifestations with involvement of pancreatic, hepatic, digestive, and pulmonary function. Although it is recognized that cystic fibrosis(CF) follows a mendelian autosomal recessive inheritance pattern, the exact genetic biochemical defect has yet to be conclusively pinpointed. The most common symptoms are due to obstruction of the bronchopulmonary tree with super-imposed infection. Such chronic pulmonary infection leading to pulmonary insufficiency is the principal cause of death in patients with cystic fibrosis, despite the aggressive use of antibiotics and respiratory inhalation therapy. The CF patient's poor response to chronic pulmonary infection may reflect, in part, some inadequacy in the host's immune mechanism. Advances in immunologic techniques during the last decade have enabled investigators to evaluate the immune response of CF patients in an effort to understand the infectious complications of this disease. It is the purpose of this paper to discuss briefly the CF patient's immune response to infection.

Before quantitative measurements of the immunoglobulins in CF were available, Green and others,[1] using paper electrophoresis, investigated the serum proteins of these patients with varying degrees of disease involvement. Little change in the alpha-1 and beta globulins was observed, regardless of the stage of the disease. The albumin fraction, as often seen with chronic infection, was reduced. More significant, however, was the increase in gamma globulins which were elevated proportionally to the severity of the disease.

It was not until 1966 that the serum immunoglobulins in CF were quantitatively measured. Schwartz[2] reported elevated levels of IgG and IgA in uncomplicated CF. Those patients who subsequently developed severe pulmonary complications had very high IgA levels. In addition, this latter group also had elevated levels of IgM. The presence of increased immunoglobulin levels in these patients was probably the result of chronic exposure to a variety of endogenous and exogenous antigenic stimuli, including products of tissue destruction, several strains of bacteria, fungi and antibiotics. Schwartz felt that this serologic hyperimmune state may very well explain the relative resistance of CF patients to blood borne infection by those organisms responsible for the chronic pulmonary infection. Although this study demonstrated the CF patient's ability to increase his serum immunoglobulins when challenged by various antigens, the data gives little information regarding the host's defenses at particular sites of chronic infection, e.g. the respiratory epithelium.

Evaluation of the local immune mechanism has focussed primarily on the immunoglobulin content of certain body fluids. Tomasi and Ziegelbaum[3] noted that normal parotid saliva on immunoelectrophoresis showed an unusually heavy line near the gamma-1A globulin band. Quantitatively, normal parotid saliva was found to contain large amounts of gamma globulin, such that the gamma globulin:albumin ratio was approximately six times greater than that of the serum. The majority of this gamma globulin was immuno-

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The opinions or assertions contained herein are those of the author and are not to be construed as official or reflecting the views of the Navy Department or the Naval Service at large.

electrophoretically very similar to IgA, if not identical to it. Human urine, colostrum, tears, bile and intestinal secretions have also been found to contain significant amounts of IgA immunologically identical with the gamma globulin found in parotid saliva. Density gradient ultracentrifugation of this gamma globulin showed a sedimentation rate varying from 7S to 11S, the larger portion to be in the 11S range. The fact that the IgG:albumin ratio in parotid saliva and in serum was approximately equal suggested other factors which may be responsible for the relatively increased IgA levels in secretion besides simple transudation from serum to external secretions. These investigators felt that it may be a function of the IgA globulins as part of the body defense mechanism to furnish antimicrobial and perhaps other antibodies to external secretions. This could be accomplished by either local synthesis (7S and 11S IgA and/or by selective transport of IgA (7S) from the serum utilizing a specific chemical site in the mucosal cell of the epithelium. Thus the theory of an IgA transport site or transport piece was suggested.

Further evidence of a local immune system was advanced by Keimwitz[4] who measured immunoglobulin levels in tracheobronchial washings of patients with respiratory disease. Aspirates were taken at the carina immediately after induction of anesthesia for unrelated surgical procedures. Comparison of immunoglobulin:albumin ratios in serum and tracheobronchial secretions shows approximately equal levels of IgG but almost a ninefold increase in IgA on the surface of the respiratory mucosa. It was suggested that possibly the disproportionate quantity of IgA in secretions is due to a differential in enzyme degradation of the immunoglobulins on the mucosal surface. thereby leaving a relatively large amount of IgA. However, Keimwitz, as well as Tomasi and Ziegelbaum, considered a more probable mechanism to be a combination of immunoglobulin transudation from the serum to the tracheobronchial mucosa and local production of additional IgA.

Nevertheless, in spite of their serologic hyperimmune state, patients with cystic fibrosis continue to have repeated pulmonary infections. Although the systemic IgA production system is intact, there is the possibility of a generalized defect in the local transport mechanism responsible for secreting IgA onto mucosal surfaces. South and her co-workers[5] did not find IgA levels in parotid saliva of CF patients to be significantly different from control patients. In those patients having bronchiectasis, the salivary IgA levels differed only slightly from those levels found in CF patients without pulmonary complications. Therefore, according to these investigators, it is apparent that the generalized transport mechanism of IgA is intact but there may be a localized IgA deficiency along the respiratory mucosa. The deficiency may be one of relative ineffectiveness, e.g. the secretory IgA is present in normal quantities but the abnormal mucus produced in CF may, in some way, inhibit the normal function of the immunoglobulins. On the other hand, the bronchial mucosa may be ruined by a continuous cycle of infection which severely damages the epithelial cells required for IgA transport.

Recently Martinez-Tello and associates[6] employed immunohistochemical techniques to investigate the secretory IgA system in the bronchial tree of patients with cystic fibrosis. In normal bronchial mucosa, the ratio of interstitial cells (mature plasma cells and proplasmacytes) producing IgG to those producing IgA was approximately 1:1. In CF patients with severe bronchopulmonary inflamation, both IgG and IgA cell types became markedly increased in numbers, with an additionally significant increase in the IgA cells over the IgG cell. Using anti-11S IgA fluorescent antiserum on tissue from CF patients, these authors demonstrated cytoplasmic fluorescence of plasma cells as well as bronchial epithelial cells. Similar immunofluorescent staining with anti-secretory piece (transport piece) antiserum verified in CF patients, the presence of secretory piece in the bronchial epithelium, bronchial glands and bronchial secretions. Consequently, these findings suggest that the chronic pulmonary disease of cystic fibrosis is not related to a local immunologic defect involving the production and

secretion of IgA in the bronchial mucosa.

Thus, from the information available, the patient with cystic fibrosis does not appear to have any gross defects in the general or the local immune response. With a serologic hyperimmune state and increased amounts of immunoglobulins in local bronchial secretions, one would expect in CF to see a relatively normal response to the usual bacterial flora found in the respiratory tract. However, since this is not the case, other factors must be considered. For instance, what is the nature of the respiratory flora in CF? Also, what effect does the abundant presence of mucus material have on the local immune mechanism in the respiratory tract.

Bacterial cultures simultaneously obtained from the nasopharynx, oropharynx and sputum have shown a higher incidence of *Staphylococcus aureus* and *Pseudomonas aeruginosa* in children with CF than in well children or in children with chronic respiratory infection not associated with CF.[7,8] Iacocco *et al*[8] noted that in CF children who had been treated with antibiotics, there appeared to be a greater frequency of these two pathogens than the non-antibiotic treated group. As the severity of the respiratory infection progresses in CF, a higher incidence of positive cultures of pseudomonas existed, but not of staphylococci. The majority of these pseudomonas strains have been of the rough colony type although Doggett and co-workers[9] have reported a significant incidence of atypical mucoid variants of *Pseudomonas aeruginosa.* This mucoid strain was cultured from 70 percent of tracheobronchial mucus specimens taken from CF patients who already had previous positive cultures for the rough colony type of pseudomonas. The mucoid material, appearing to originate from the capsule of the bacterium, is precipitated by ethanol, and the amount of insoluble material is proportional to the time duration which the CF patient had been infected with pseudomonas. The viscid, ethanol-insoluble, mucoid material secreted by the exocrine glands of the CF patients is similar to the capsular slime of the pseudomonas, although the two substances have not been proven to be chemically identical.

The abundant presence of mucoid material in the tracheobronchial tree of CF patients with chronic respiratory infection necessitates a discussion of what role mucin may have in the infectious process. Olitski,[11] in reviewing the literature on mucin as a resistance lowering substance, noted evidence suggesting that the reduced phagocytic activity of polymorphonuclear leukocytes in a mucinous environment was not due to a direct effect upon white cells but to a coating action of the bacteria by the mucin. Miller and Castle[11] theorized that mucin acts as a kind of hapten in hindering either the sensitization of the host to the micro-organism or the attachment of the antibody to the bacterium. However, recent reports indicate that the mucin does not inhibit the formation of antibodies to specific bacteria. In patients with CF, Burns and May[12] have demonstrated the presence of antibodies to specific antigenic components prepared from *Staphylococcus aureus, Hemophilus influenza* and *Pseudomonas aeruginosa.* The antigens of the pseudomonas were obtained from the rough colony strains and hence, in those CF patients having the atypical mucoid pseudomonas strains, the antibodies demonstrated were against somatic and not capsular antigens. Probably the host developed antibodies against the non-mucoid pseudomonas organism before the mucoid variant appeared. This, of course, is assuming the rough strain precedes the mucoid variant. Therefore, it would be very interesting to determine whether antibodies, if any, are formed against the capsular material of these atypical, mucoid strains of *Pseudomonas aeruginosa.*

Thus, in patients with CF, there appears to be a unique problem in the host's response to infection, particularly to the atypical, mucoid strain of pseudomonas. The sequence of pathogenic organisms responsible for the chronic pulmonary infection begins with *Staphylococcus aureus* and then additionally involves *Hemophilus influenza,* the rough colony type and finally the mucoid type of *Pseudomonas aeruginosa.* Conventional antibiotics plus respiratory inhalation therapy appear to moderate the pulmonary complications until the pseudomonas organisms are

manifest, at which time the antibiotics begin to yield less than optimum results.

At present, there is no facile explanation for this discouraging response to therapy in the advanced stages of pulmonary infection. As already mentioned, the CF patient's immune response is apparently intact. Not only does the general immune mechanism respond with a serologic hyperimmune state, but also the local immune system in the bronchial mucosa responds with increased IgA production. Mucin produced by the patient's disease does not interfere with antibody production as shown by increased titers to the three main bacterial pathogens.

This paper has therefore attempted to review some of the immunologic considerations pertaining to the pulmonary infectious problems in patients with cystic fibrosis. Perhaps the key to more successful management of these patients rests with a better understanding of the pseudomonas mucoid variant which possibly may serve as a model to help establish the ultimate etiology of cystic fibrosis.

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# AN UNUSUAL CASE OF PNEUMONIA

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When one sees a patient with the abrupt onset of high fever, chills, dyspnea, and x-ray evidence of early pneumonia, it is quite natural to suspect an infectious process. This case report describes a patient with pulmonary sensitivity to nitrofurantoin that presented with these symptoms. Other drugs produce transient infiltrations on x-ray examination, but nitrofurantoin sensitivity is much more acute and severe.

**Case History:** A 69-year-old white female was seen as an out-patient with acute cystitis and treatment was initiated with nitrofurantoin macrocrystals (macrodantin). The patient's past history was not remarkable with the exception of a long history of recurrent bouts of cystitis and a questionable recent diagnosis of angina pectoris. Nitrofurantoin therapy was begun on May 4, 1971 and approximately ten hours later she awoke with a shaking chill, dyspnea, myalgias, and high fever. She treated herself symptomatically with aspirin but continued to have chills, fever, myalgias, and on May 5, 1971 noted a rash over her feet and lower legs. On May 7, 1971 the dyspnea was much worse and she returned to see her physician. There was a leukocytosis of 15,000 with a predominance of neutrophils and a chest-x-ray film showed increased broncho-vascular markings with probable infiltration at the left base. She was then admitted to the Medical University Hospital with the diagnosis of drug hypersensitivity vs. viral pneumonia. There were no eosinophils described on the initial WBC differential but an eosinophilia of 13 per cent was noted on May 8, 1971.

She was placed on strict bed rest and given acetaminophen (Tylenol) for fever and Diphenhydramine hydrochloride (Benadryl) 50 mgm every 6 hours p.o. The nitrofurantoin was discontinued at the time the patient was seen in the Out-Patient Department. She continued to improve with a temperature decrease to normal in 48 hours. A slight cough, which was non-productive, persisted but she was asymptomatic after a 48 hour period and was discharged on the 5th hospital day.

**Discussion:** It is extremely difficult to estimate the number of patients that have experienced a pulmonary sensitivity to nitrofurantoin but judging from the reported cases in the literature and the amount of nitrofurantoin that has been used, it is exeeedingly rare.[1]

Early recognition of this type of reaction is important since continuing the drug will prolong the illness and discontinuing the medication results in a rather prompt improvement.

The typical case begins with chills, fever, dyspnea, myalgias, and cough. The time interval from exposure varies with the past history of nitrofurantoin usage. In the initial sensitization the reaction may occur during the first five to ten days of therapy. If the patient has been sensitized previously, the reaction can occur within eight to twelve hours; but if the

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patient is re-exposed after a documented acute reaction, hypersensitivity may occur within one to four hours after ingestion.

Eosinophilia and maculpapular rash are not constant findings but when present suggest drug hypersensitivity.

Many drugs have been used to treat the hypersensitivity reaction but in the usual case the only therapy necessary is immediate withdrawal of the drug. Awareness of this type of pulmonary reaction to nitrofurantoin should enable us to detect more of the less acute reactions and thereby prevent a repeated exposure.

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## SUIT FOR WRONGFUL DEATH AFTER PHENOTHIAZINE TREATMENT

In an action against a hospital, physicians, and a drug manufacturer for the wrongful death of a patient who was being treated with a phenothiazine drug, a Florida appellate court ruled that the record justified a lower court judgment for the hospital and other parties.

The patient, a 14-year-old girl, was committed to the hospital by juvenile authorities because of a suicide attempt. She responded favorably to 100 mg per day of Mellaril, a phenothiazine derivative. A staff physician authorized a resident to increase the dosage to 2,400 mg per day, allegedly three to four times the dosage recommended by the manufacturer.

On the day of the girl's death, the dosage of the drug was 2,000 mg per day, although the manufacturer recommended decreasing the dosage to the smallest effective amount. The staff physician apparently knew of the "sudden death phenomenon" associated with the drug.

The mother and administratrix of the girl's estate brought a wrongful death and survival action against the two physicians, the hospital, and the drug manufacturer. The trial court entered judgment in favor of the physician and other parties, and the mother appealed.

She sought reversal of the judgment, contending, among other things, that the court had erred in refusing to direct a verdict against the manufacturer and to charge the jury as to the manufacturer's liability on the theories of implied warranty of merchantability and of negligence per se for violation of the law concerning misbranded drugs. She also contended that the court had erred in refusing to instruct as to informed consent where the girl was given the drug without her parents' or the court's consent. The appellate court, after reviewing the record, concluded that there had been no reversible error and affirmed the judgment of the trial court.—*Carter v. Metropolitan Dade County,* 253 So. 2d 920 (Fla.Dist.Ct. of App., Sept. 28, 1971; rehearing denied, Nov. 23, 1971)

# SURGERY FOR ENLARGING THE FEMALE BREASTS

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Over the years many methods and varying materials have been used to enlarge the female breasts. Until recently, the most popular implant was the Cronin "natural feel" implant made of the gel form of dimethylpolysiloxane contained in a silastic envelope. The objections to this implant were: 1) occasional palpable wrinkles along the edges of the implant. 2) occasional unnatural firmness. 3) visible scar on the chest wall.

Attempts have been made in the past to perfect an inflatable mammary implant. The principle fault was leakage from the valve and filling tube with subsequent collapse of the inflated implant. A new inflatable mammary implant designed by Henry Jenny, M.D., of Palm Springs, California, and produced and distributed by the Heyer-Schulte Corporation, appears to have eliminated the leakage problem by incorporation of an internal diaphragm valve.

The Jenny implant, which is made of medical grade silicone rubber, is seamless and contoured to avoid problems with wrinkling.



**Figure 1. Dotted line indicates periareolar incision site.**

After insertion, the implant is inflated to the desired size and the fill tube which is not part of the implant is removed and discarded. The implant is available in three volume sizes ranging from 100 cc to 350 cc and is inflated with water or saline.

The problem of visible scars on the chest wall following augmentation mammaplasty has been eliminated with the use of the Jenny technique. This is because the col-



**Figure 2. Case 1: Preoperative condition. Patient wore "A" padded brassiere.**



**Postoperative condition two months. Patient now wears "C" cup brassiere. Note absence of visible scar. Large size (250 cc) implant was used.**

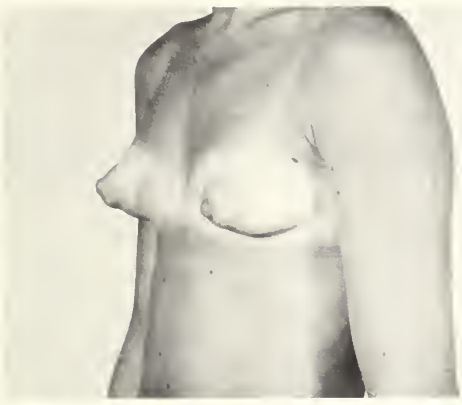


Figure 3. Case 2: Preoperative condition. Patient wore "A" padded brassiere.



Postoperative condition three weeks. Patient wears "C" cup brassiere. Note no visible scar. Medium size (200 cc) implant was used.

lapsed implant is inserted into a prepared post-mammary space through an areolar incision (Figure 1). After healing, the areolar scar is not visible (Figures 2 and 3). Figure 4 shows the position of the implant behind the mammary gland postoperatively.

The operation takes about one hour and is done under local anesthesia in the out-patient department of the hospital unless the patient desires general anesthesia. Postoperatively the patient is placed on a wide spectrum antibiotic for four days and the sutures are removed in seven days. As a postoperative dressing, a brassiere, which the patient is instructed to bring (two cup sizes larger), is used over gauze sponges to cover the stitches.

Following are two case reports:

Case #1: A 30 year old female with small breasts desired an augmentation mammaplasty for cosmetic reasons. She was hospitalized for two days. Figure 2 shows the patient before and two months following surgery.



Figure 4. The implant is seen to lie behind the mammary gland.

Case #2: Patient is a 25 year old secretary with small breasts. She wanted the breasts enlarged so that she could wear bikini bathing suits and low cut dresses. Since she desired to be asleep during the operation, she was admitted to Roper Hospital on August 8, 1971, and operated upon the following day. The operation took one hour and ten minutes. The medium size center valve implants were inserted and filled to 200 cc. Postoperatively Tetracycline was administered for four days. She was discharged on August 11, 1971, on the second postoperative day. The periareolar sutures were removed in the office on the seventh postoperative day. The patient was seen for a final examination one month postoperative and discharged. Figure 3 shows the appearance of the patient before and three weeks following surgery.

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## NEGLIGENCE NOT PROVED IN BRAIN INJURY

A patient who was partially paralyzed after treatment for injuries suffered in an automobile accident was denied recovery of damages by a California jury.

The patient, an 18-year-old student, was hospitalized for five days, undergoing intracranial surgery for a cerebral contusion. On the student's second day in the hospital a neurosurgeon recommended treatment with Urevert to reduce intracranial pressure. A dose of 250 cc of Urevert was administered intravenously.

Allegedly as a result of treatment at the hospital, the student suffered partial paralysis of his left arm and right leg, impaired speech, and extremely impaired ability to walk. He brought action for malpractice, contending that the nurses had failed to observe administration of the drug. He said that instead of entering the bloodstream, the drug had infiltrated into his right arm and therefore did not reduce cerebral swelling, as intended. He contended that uncontrolled swelling had forced the brain into the medulla oblongata, causing brain stem damage and bilateral diffuse paralysis.

The physicians denied that Urevert had infiltrated into the student's arm, contending that records showed that there had been an infiltration of saline solution, which had not caused damage. They said that the student had been admitted to the small, 24-bed, general hospital on a busy weekend, when only two registered nurses and four nurse's aides were available, and there were 25 patients in the hospital.

The physicians further contended that, even if the drug had infiltrated into the arm, attending physicians could have administered more doses as they saw fit. One physician testified that absence of Urevert could have contributed to swelling of the brain and caused brain stem injury and diffuse paralysis.

The neurosurgeon testified that he had treated the student for three weeks after his transfer from the first hospital. He said that the student's brain stem injury had been caused by the automobile accident and that the alleged infiltration of the drug was not related to his condition at the time of trial. He denied that there had been any brain swelling and said that Urevert could not have been guaranteed to reduce swelling or pressure.

The attending physician testified that there had been no drug infiltration. The nurses who had attended the student did not testify because of illness.—*Johnstone v. City of Needles* (Cal.Super.Ct., San Bernardino Co., Docket No. 133224, 1971)

# President's Page



This is the last time that I shall have the honor to write a statement for the President's Page in the *Journal* of the South Carolina Medical Association. Certainly it will be the last as President for as you read this, of course, the 1972 Annual Convention will be over and the new President installed. This is one of those years when there will be a rather drastic shake up in the leadership. We shall have a new President, vice president, president-elect, and chairman of Council, also the possibility of a new delegate to the AMA. With this much change in people there will be reflected a change in the attitude, mood, and direction of the Association. I think we will see a more militant conservatism than we have seen in the last ten or more years. There will be outspoken opposition by some to any sort of National Health Program, even "medicredit", the doctor's plan, or the one put forth by the AMA as our plan and which is gathering some momentum in the Congress. There will be some with deep reservations about the AMA and its ability to speak for the American doctor. Though, at the present time, no other organization of doctors speaks with such authority. Some will not even look with favor upon the South Carolina Foundation for Medical Care which barely has had the breath of life breathed into it and which struggles for the strength to survive. Yet in the Foundation we have an organization which, when full bodied and viable, can have the power to go to the bargaining table and speak for the doctors. It cannot do this unless a very large majority of us become members.

Yes, our leaders are men of strong opinions, fiercely conservative, individually and collectively, but who desire to serve us, and will serve us well only if our desires are made known to them. I am sure you will join with me in pledging our full cooperation to this very capable group.

J. P. Booker, M. D.
President
South Carolina Medical Association

# Editorials

### Editorial Change

It has been a pleasure to have had the opportunity of serving as Editor of the *Journal of the South Carolina Medical Association* during the last two years. An upcoming change in my professional career will involve a move for me to another state in the near future, at which time I will become associated with Loyola Stritch School of Medicine. I have experienced very pleasant and rewarding professional associations in South Carolina, and it is with ambivalent feelings that I am making a change. At this time I would like to express my sincere gratitude to members of the South Carolina Medical Association for their forbearance and support during my tenure as Editor of the *Journal.*

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### Stopping the Flow of Medical Knowledge

The Corps of Army Engineers has an unfortunate habit of building immense dams which in the course of time produce silting and obstruction of the flow of water that would normally pass below the structure. The Williams and Wilkins Company, an old and respected firm publishing books and periodicals on medicine and the allied sciences has drawn up a serious obstruction to the best use of the material appearing in its publications.

In brief, it claims that it is a violation of copyright for libraries or other persons, particularly the National Institutes of Health and the National Library of Medicine, to produce photocopies of any quantity from Williams and Wilkins' publications. This includes some important journals, such as *Medicine, Gastroenterology,* the *Journal of Nervous and Mental Disease,* as well as a number of standard, widely used text books, containing materials valuable to the progress of medicine.

A court has already ruled that a library has no right to make unauthorized photocopies of articles appearing in copyrighted periodicals. Even a single copy is prohibited under pain of fine. Under this decision, libraries will no longer be able to furnish students and practitioners with copies of material in which they are interested. This limitation would, in effect, deprive those concerned of the opportunity to obtain information simply and inexpensively.

It has been suggested that libraries should operate under some sort of license from the publishers in order to produce the desired material. This would probably be an awkward arrangement and would entail expense and trouble. The bulk of the mass of photocopies produced by large libraries is very considerable; in one year NIH made 93,000 photocopies of articles averaging some pages in length, while NLM provided government agencies and private libraries with copies of about 125,000 articles.

Williams and Wilkins, who may be joined by other publishers, have no obvious purpose in this except the possible profit from the licensing arrangement. What the profit of the company would be is not known, but however little or large, it would seem to be out of proportion to the damage done by the new arrangement.

As far as we are aware, the authors of the articles of Williams and Wilkins' journals do not receive payment. Perhaps the publisher could do without his pound of flesh for the sake of medical progress. Perhaps he has a real financial need to maintain service. The present decision will not go unchallenged.

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**Precautions:** Mild leukopenia has been reported during Flagyl use; total and differential leukocyte counts are recommended before and after treatment with the drug, especially if a second course is necessary. Avoid alcoholic beverages during Flagyl therapy because abdominal cramps, vomiting and flushing may occur. Discontinue Flagyl promptly if abnormal neurologic signs occur. Exacerbation of moniliasis may occur. In amebic liver abscess, aspirate pus during metronidazole therapy.

**Adverse Reactions:** Nausea, headache, anorexia, vomiting, diarrhea, epigastric distress, abdominal cramping, constipation, a metallic, sharp and unpleasant taste, furry or sore tongue, glossitis and stomatitis possibly associated with a sudden overgrowth of *Monilia*, exacerbation of vaginal moniliasis, an occasional reversible moderate leukopenia, dizziness, vertigo, incoordination and ataxia, numbness or paresthesia of an extremity, fleeting joint pains, confusion, irritability, depression, insomnia, mild erythematous eruptions, "weakness," urticaria, flushing, dryness of the mouth, vagina or vulva, pruritus, dysuria, cystitis, a sense of pelvic pressure, dyspareunia, fever, polyuria, incontinence, decrease of libido, nasal congestion, proctitis, pyuria and darkened urine have occurred in patients receiving the drug. Patients receiving Flagyl may experience abdominal distress, nausea, vomiting or headache if alcoholic beverages are consumed. The taste of alcoholic beverages may also be modified. Flattening of the T wave may be seen in EKG tracings.

**Dosage and Administration**

*For Trichomoniasis. In the Female:* One 250-mg. tablet orally three times daily for ten days. Courses may be repeated if required in especially stubborn cases; in such patients an interval of four to six weeks between courses and total and differential leukocyte counts before, during, and after treatment are recommended. Vaginal inserts of 500 mg. are available for use, particularly in stubborn cases. *When the vaginal inserts are used,* one 500-mg. insert is placed high in the vaginal vault each day for ten days and the oral dosage is reduced to two 250-mg. tablets daily during the ten-day course of treatment. Do not use the vaginal inserts as the sole form of therapy. *In the Male:* Prescribe Flagyl only when trichomonads are demonstrated in the urogenital tract, one 250-mg. tablet two times daily for ten days. Flagyl should be taken by both partners over the same ten-day period when it is prescribed for the male in conjunction with the treatment of his female partner.

*For Amebiasis. Adults:* For acute intestinal amebiasis, 750 mg. orally three times daily for 5 to 10 days. For amebic liver abscess, 500 to 750 mg. orally three times daily for 5 to 10 days.

*Children:* 35 to 50 mg./kg. of body weight/24 hours, divided into three doses, orally for ten days.

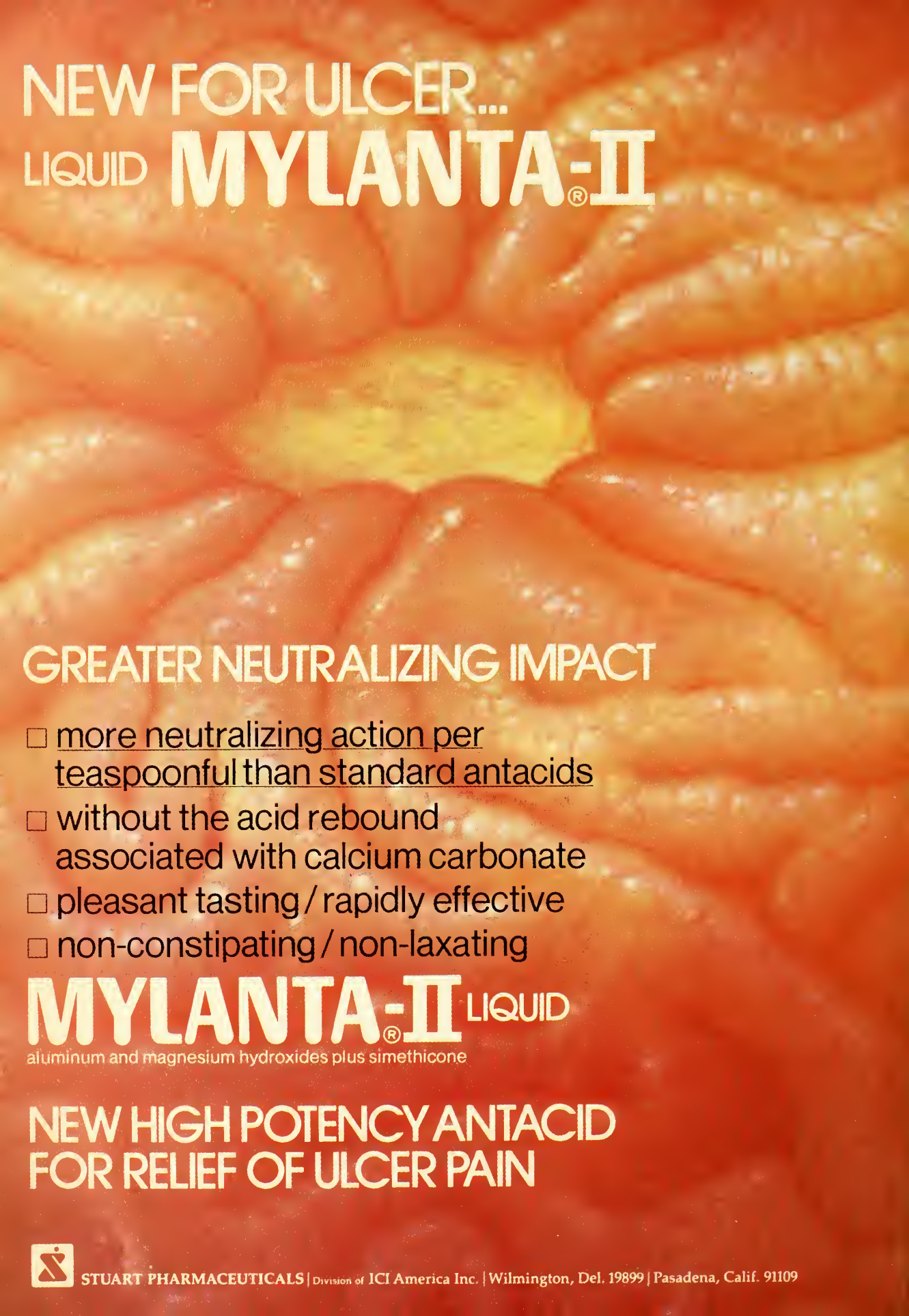
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# MINUTES OF COUNCIL
# SOUTH CAROLINA MEDICAL ASSOCIATION

Charleston, South Carolina March 18, 1972

The Council of the South Carolina Medical Association met Saturday, March 18, 1972, at 9:30 a.m. in the Board Room, Medical University of South Carolina, Charleston, South Carolina. The following were present: Dr. John P. Booker, Dr. Edward F. Parker, Dr. Forde A. McIver, Dr. J. Howard Stokes, Dr. C. Thomas Weston, Dr. William H. Hunter, Dr. Waitus O. Tanner, Dr. Donald G. Kilgore, Jr., Dr. H. M. Stone, Dr. John D. Gilland, Dr. Michael Holmes, Dr. Harold P. Hope, Dr. Randolph D. Smoak, Jr., Dr. Thomas Parker, Dr. John C. Hawk, Jr., and Dr. Harrison L. Peeples.

Also: Mr. M. L. Meadors, Mr. Richard Pugh, Dr. E. Kenneth Aycock, Mr. Charles H. Walter, Dr. J. H. Young, Dr. James W. Colbert, and Dr. J. Hal Jameson.

The Chairman, Dr. Harold P. Hope presided. Dr. Waitus O. Tanner offered the invocation.

The Chairman recognized Dr. William M. McCord, President of the Medical University of South Carolina, as host. Dr. McCord welcomed Members of the Council to the Medical University. The Chairman then introduced Dr. Harrison L. Peeples, Chairman of the Board of Trustees of the Medical University of South Carolina, who also welcomed Members of the Council to the University. Dr. Randolph D. Smoak, Jr., was welcomed to his first meeting of the Council.

The minutes of the October 27 meeting were approved.

Dr. John D. Gilland introduced Mr. Charles H. Walter of Blue Cross-Blue Shield, who presented the findings of the preliminary study on professional liability insurance — a plan for non-profit self-insurance. Mr. Walter noted the justification for spending time by Blue Cross-Blue Shield to study such a plan; autogenic health care and defensive medicine resulting in excessive bills are significant costs to insurance companies. The necessity for hospitals to carry malpractice insurance is another factor.

Mr. Walter stated that several major insurance companies were investigated concerning the professional liability insurance, Employers Mutual of Warsaw offering perhaps the best plan. Because this is a mutual company, it becomes possible for members of an association to self insure by rate stabilization fund, which would result in either cash refund or a reduction of malpractice premiums in future years as claim experience justifies. This company also feels that premium rates are 15-17 per cent too high in South Carolina because they are coming from national rating bureau.

Mr. Walter further stated that Employers Mutual would refuse to write coverage on any physician who is not an active member in good standing of the Association. The company would ask the Peer Review Committee or such other arm to function as a malpractice committee, and at least 75 per cent of eligible physicians should join the program, the latter requirement not having to be strictly enforced. Also, premium rates would be guaranteed against increase in the first two years, and in four-year periods thereafter.

Dr. John D. Gilland moved that this matter now be referred to the insurance committee for a further in-depth study, and a report back to the Council. Dr. J. Howard Stokes seconded the motion, which was voted on and carried. The Chairman asked Dr. Gilland to check with the Aetna Insurance Company also.

Moving to peer review, the Chairman commented on peer review in South Carolina and stated that peer review is the backbone of the foundation.

Mr. Meadors advised that Dr. Mike Patton had requested by letter that Council be presented two items: fees for services rendered by specialists and family practitioners and the establishment of a definite local peer review to encompass the entire state. The Chairman stated that Council had already gone on record as supporting equal fee for equal service. He added that the peer review committee has recommended that each speciality appoint

their own peer review committee.

Dr. Hawk asked for continued assurance, whether there be a statewide or regional peer review committees, that the protections are included for the individual physician and his right to know about hearings.

Dr. Forde A. McIver moved that the peer review committee be requested to submit to Members of the Council prior to the next meeting some formal report with recommendations if appropriate. It was noted that this had been done. Mr. Meadors then read the formal report of the peer review committee which will appear in the April issue of the *Journal*. The Chairman added that each Member of Council should ave the report soon.

Dr. Gilland then gave a report on the Medicaid Drug Formulary. He stated that the Drug Evaluation Committee of the Department of Public Welfare voted non-compliance with this Council's recommendation that it adopt an individual per patient cost control for drugs each month instead of a closed formulary. The non-compliance recommendation was carried to the Advisory Committee on Title XIX, where it was referred to subcommittee and action deferred for a feasibility study. He added that Dr. Ellis is opposed to changing the closed formulary system.

Dr. Gilland then recommended that Council's recommendation be taken to the House of Delegates. Dr. Forde A. McIver moved that a resolution be prepared to send to the House of Delegates. His motion was seconded, voted on and carried.

A discussion from several members followed on the open-closed drug formulary. The Chairman added that Dr. Gilland will make certain that his committee presents the remarks of Council to the House of Delegates.

Dr. Gilland then reported on the Physician Placement Bureau and recommended it be made active as a recruiting bureau, with active out-of-state recruitment in the medical universities and training hospitals. He further recommended that an active file of physician need by county be set up in conjunction with the file of in-coming letters. Dr. Gilland made the recommendation into a motion, which was seconded by Dr. Forde A. McIver. The motion was voted on and carried.

Dr. Booker commented on the possibility of a tax break for doctors who come from out-of-state. Dr. Peeples then asked that Council Members think about bringing in foreign graduates, as Governor West had suggested in the State of the State address.

Dr. Gilland further recommended that Mr. Pugh compile information to give to inquirers, adding that the Conway Chamber of Commerce was quite receptive in helping to prepare a folder. Dr. Gilland amended his motion for a "Physician need by county" file to include the contacting of Chambers of Commerce, and a report to be given at the annual meeting. The amendment was seconded by Dr. H. M. Stone, voted on and carried.

The Chairman called on Dr. J. Howard Stokes, Treasurer, for his report of the Investment Committee. Dr. Stokes referred the group to copies of the budget which had been distributed to all members, noting items in this budget that his committee suggests be deleted. He stated that the deletion of these items, if approved, would decrease the indicated budget for this year by at least $7,300. He added that the revenue from the general fund investment amounts to about $5000 per year, which has never been used. Finally, he added that if the budget were reduced by $7000 and if the dividends of $5000 were used, the South Carolina Medical Association would be operating within $1000 revenue opposed to expenses.

Dr. Gilland recommended that (1) this amended 1972 budget be adopted and (2) as much deficit as seemed to be probable be used from current dividends of the general funds. Dr. Donald G. Kilgore made this recommendation in the form of a motion, which was seconded, voted on and carried.

Dr. Gilland further reported that after investigating three banks and one investment counseling firm, the committee reached an early conclusion that if any change is to be made in the present handling of investments, it should be through the use of a bank. He added that at the present time the investment committee feels that the funds in the general fund should be left in the present mutual investment group. The committee also advises

a quarterly report for all members of Council. Also, the committee recommends to future investment committees that they hold a meeting prior to each council meeting. Finally, the committee recommends that the general fund total be set at $100,000.

Dr. Kilgore moved that the recommendations of the Investment Committee be adopted. Dr. Thomas Parker seconded the motion which was voted on and carried.

The Chairman stated that the South Carolina Medical Association should concentrate on more members, specifically Medical University faculty. A discussion by several members followed concerning membership status of residents, interns and students. Dr. Weston recommended that bills for S.C.M.A. membership be sent to members of local medical societies who are not members of S.C.M.A. The advisability of such an action was discussed by several members of Council.

Dr. Forde A. McIver moved that a committee be appointed before the annual meeting to study the whole problem of recruitment and bring recommendations to the Council prior to the meeting. The motion was seconded, voted on and carried.

Mr. Meadors called on Mr. Pugh to comment on income that can be made with an automobile firm for endorsing its leasing provision. Mr. Pugh presented the plan of Jim Moore Cadillac-Oldsmobile in Columbia, adding that the S.C.M.A. would receive five dollars per month per car plus advertising in the Journal by the automobile firm. Dr. Stone moved that the idea be endorsed and that Mr. Pugh seek further information. The motion was seconded, voted on and carried. The Chairman also requested that Mr. Pugh check with King Oldsmobile in Spartanburg.

Mr. Meadors commented on the expenses of the annual meeting. He stated that during the past few years the amount taken into the exhibit account has been decreasing because there is less response from the drug houses. Dr. Tanner presented the possibility of contribution in lieu of exhibits. Dr. Peeples further suggested a single booth for contributors, with Dr. Kilgore adding the possibility of having these contributors sponsor a speaker.

Dr. Tanner moved that these possibilities be explored. The motion was seconded, voted on and carried.

Dr. Stone then commented that because of dissatisfaction with the Ocean Forest Hotel, moving to the Convention Center might help. He added that the drug companies must sign up for exhibits by January 1 when the budget is made. Dr. Thomas Parker suggested that the advertisers be contacted by November 1, rather than December 1.

The Chairman introduced Dr. James W. Colbert, Vice President for Academic Affairs at the Medical University and Chairman, Regional Advisory Group Regional Medical Program. Dr. Colbert commented on the change in emphasis in the Washington office in the objectives and goals of RMP. The move is away from emphasis on categorical disease and toward personnel, institutional form and network communication. He added that education is still a major component. He noted the significance of the federal government's developing a tremendous number of areas of health personnel to see if a new distribution of health care personnel can be made.

Mr. Meadors reported on the preparation of legislation for the MEDEX program. He recommended a bill to amend Chapter 24 of Title 56 of the Code of Laws of South Carolina, commonly referred to as the Medical Practice Act, by excepting Certified Physicians' Assistants from the restrictions provided in said Chapter.

Dr. Peeples expressed concern over a physician's assistant being licensed to practice with any unspecified physician. He recommended that the physician's assistant be certified to practice with a specific physician who is licensed to practice and to whom he is responsible. He added that when he leaves the specified physician, he should be re-certified to practice with another physician.

A discussion followed by several members as to the wording of the bill to incorporate Dr. Peeples' suggestion. It was the consensus of the group to change the proposed bill, paragraph 2 (a) to ". . . such assisant is approved and certified by the Board as one qualified by training or experience to function as an assistant to a specified physician or specified physician's group or a specified pro-

fessional association. . ." Paragraph 2 (b) will be changed accordingly.

Further discussion was held as to how the bill should be introduced. Mr. Meadors commented on the possibility that amendments might be added, and Mr. Pugh spoke briefly on the exemptions added in New York and California laws. It was the consensus of the group to meet the problem of amendments as they arise, and to present the bill, as corrected, to Mr. Cuttino.

Dr. E. Kenneth Aycock gave a progress report on the HMO study for state employees. He stated that the piece of legislation adopted unanimously and recommended by the HMO Committee appointed by Governor West sets up and describes what an HMO is. He added that the committee feels that the risk should be borne by the State at this point and that the involvement of the Medical Foundation would be primarily that of peer review and providing services on a fee for service basis.

A discussion by several members followed as to whether or not the legislation should be enacted at this time, since the federal government has only begun work in this area.

Further discussion followed concerning the definition of HMO, and the Chairman stated that the S.C.M.A. would be in favor of fee for service and selection of physician.

Dr. Aycock answered questions pertaining to the recommendations of the Governor's Management Review Commission, particularly in reference to the proposed new executive committee of the Board of Health. He commented on the concern about comprehensive health planning and the possibility of removing it from the State Board of Health.

Mr. Meadors further discussed the advisability of legislation this early. Dr. Aycock stated that there is nothing in the statutes now prohibiting the establishment of HMO's; therefore, it was necessary to make sure that if and when they did develop, they were at least licensed to insure the quality of care.

After further discussion, the Chairman asked if the advisory committee could postpone presenting the legislation until Council had an opportunity to study the matter. Dr. Aycock informed the Chairman that he had already written the Governor. The Chairman then asked if it could be suggested to the Governor to delay action until national legislation or the national feasibility study has been completed. Dr. Aycock said that he could ask but that the feasibility study is for state employees and there are already HMO's beginning in Greenville and possibly Charleston.

Dr. Tanner moved that the above be received as information, which was duly seconded, voted on and carried. Dr. Thomas Parker moved that a copy of the proposal be sent to each member of Council.

Dr. J. H. Young reported on the Nursing Liaison Commission, now called the Joint Practice Commission. The two major topics were a more liberal approach toward nursing education and greater protection through a change in Licensure of nurses in the State. Also, the definition of "nurse clinician" was presented.

Dr. Tanner moved that the report be received as information and that the Council study it until the annual meeting and make a decision at that time. The motion was duly seconded, voted on and carried.

Dr. C. Tucker Weston reported on the Permanent Housing Foundation Committee. He stated that Mr. John C. B. Smith has given an option on one and one half acres of land adjacent to the Richland Memorial Hospital for one dollar per square foot for the permanent home of the South Carolina Medical Association. He added that there is a possibility of acquiring an additional one half acre at two dollars per square foot. Also, Dr. Weston stated that the Columbia Medical Society has $45,000 which they wish to give to the S.C.M.A. for space in the building. Action must be taken before April 15 and construction of the home must be within five years.

After a discussion by several members of Council, Dr. Stone moved that the S.C.M.A. buy this acre and one half of land and if possible the other one half acre as expeditiously as possible. Dr. Kilgore seconded the motion, which was voted on and carried.

A discussion followed by several members concerning the agreement between the Co-

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**1.2 to 8 grams/day IV dosage range:** Most hospitalized patients with uncomplicated pneumonias respond satisfactorily to 1.2 to 1.8 grams/day of Lincocin IV. These doses may have to be increased for more serious infections. In life-threatening situations as much as 8 grams/day has been administered intravenously to adults.

In usual IV doses, Lincocin (lincomycin hydrochloride, Upjohn) should be diluted in 250 ml or more of normal saline solution or 5% glucose in water. But when 4 grams or more per day is given, Lincocin should be diluted in not less than 500 ml of either solution, and the rate of administration should not exceed 100 ml/hour. Too rapid intravenous administration of doses exceeding 4 grams may result in hypotension or, in rare instances, cardiopulmonary arrest.

**Effective gram-positive antibiotic:** Lincocin IV is effective in respiratory tract, skin and soft-tissue, and bone

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ydrochloride, Upjohn) have been
ecovered. Before initiating therapy,
ulture and susceptibility studies should
e performed. Lincocin has proved
aluable in treating patients hyper-
ensitive to penicillin or cephalosporins,
ince Lincocin does not share
ntigenicity with these compounds.
lowever, hypersensitivity reactions
ave been reported, some of these in
atients known to be sensitive to
enicillin.

**Well tolerated at infusion site:** Lincocin
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roduced local irritation or phlebitis,
hen given as recommended. Lincocin
usually well tolerated in patients who
re hypersensitive to other drugs.
evertheless, Lincocin should be used
autiously in patients with asthma or
gnificant allergies.

n patients with impaired renal function,
ie recommended dose of Lincocin
ould be reduced to 25—30% of
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dney function. Its safety in
egnant patients and in infants
ss than one month of age has
ot been established.

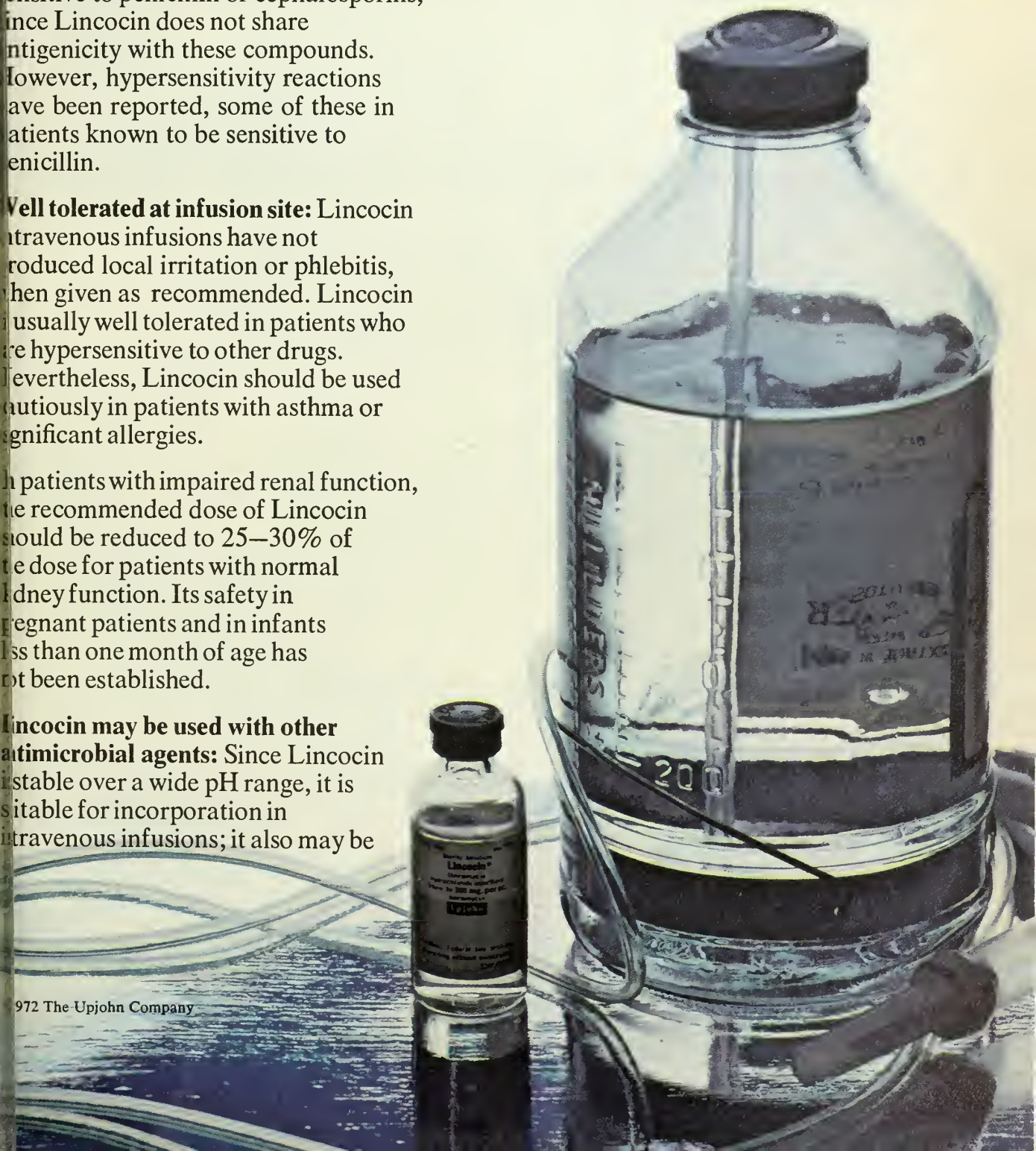
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Sterile Solution (300 mg per ml)

## (lincomycin hydrochloride, Upjohn)

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Sterile Solution (300 mg. per ml.)

# Lincocin®

# (lincomycin hydrochloride, Upjohn)

## Up to 8 grams per day by IV infusion for hospitalized patients with life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. As with all antibiotics, *in vitro* susceptibility studies should be performed.

| Each preparation contains: | Lincomycin hydrochloride monohydrate equivalent to lincomycin base |
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| 250 mg Pediatric Capsule | 250 mg |
| 500 mg Capsule | 500 mg |
| *Sterile Solution per 1 ml | 300 mg |
| Syrup per 5 ml | 250 mg |

*Contains also: Benzyl Alcohol 9 mg; and, Water for Injection—q.s.

Lincocin (lincomycin hydrochloride) is indicated in infections due to susceptible strains of staphylococci, pneumococci, and streptococci. *In vitro* susceptibility studies should be performed. Cross resistance has not been demonstrated with penicillin, ampicillin, cephalosporins, chloramphenicol or the tetracyclines. Some cross resistance with erythromycin has been reported. Studies indicate that Lincocin does not share antigenicity with penicillin compounds.

CONTRAINDICATIONS: History of prior hypersensitivity to lincomycin or clindamycin. Not indicated in the treatment of viral or minor bacterial infections.

WARNINGS: *CASES OF SEVERE AND PERSISTENT DIARRHEA HAVE BEEN REPORTED AND HAVE AT TIMES NECESSITATED DISCONTINUANCE OF THE DRUG. THIS DIARRHEA HAS BEEN OCCASIONALLY ASSOCIATED WITH BLOOD AND MUCUS IN THE STOOLS AND HAS AT TIMES RESULTED IN AN ACUTE COLITIS. THIS SIDE EFFECT USUALLY HAS BEEN ASSOCIATED WITH THE ORAL DOSAGE FORM BUT OCCASIONALLY HAS BEEN REPORTED FOLLOWING PARENTERAL THERAPY.* A careful inquiry should be made concerning previous sensitivities to drugs or other allergens. Safety for use in pregnancy has not been established and Lincocin (lincomycin hydrochloride) is not indicated in the newborn. Reduce dose 25 to 30% in patients with severe impairment of renal function.

PRECAUTIONS: Like any drug, Lincocin should be used with caution in patients having a history of asthma or significant allergies. Overgrowth of nonsusceptible organisms, particularly yeasts, may occur and require appropriate measures. Patients with pre-existing monilial infections requiring Lincocin therapy should be given concomitant antimonilial treatment. During prolonged Lincocin therapy, periodic liver function studies and blood counts should be performed. Not recommended (inadequate data) in patients with pre-existing liver disease unless special clinical circumstances indicate. Continue treatment of β-hemolytic streptococci infections for 10 days to diminish likelihood of rheumatic fever or glomerulonephritis.

ADVERSE REACTIONS: *Gastrointestinal*—Glossitis, stomatitis, nausea, vomiting. Persistent diarrhea, enterocolitis, and pruritus ani. *Hemopoietic*—Neutropenia, leukopenia, agranulocytosis, and thrombocytopenic purpura have been reported. *Hypersensitivity reactions*—Hypersensitivity reactions such as angioneurotic edema, serum sickness, and anaphylaxis have been reported, sometimes in patients sensitive to penicillin. If allergic reaction occurs, discontinue drug. Have epinephrine, corticosteroids, and antihistamines available for emergency treatment. *Skin and mucous membranes*—Skin rashes, urticaria, vaginitis, and rare instances of exfoliative and vesiculobullous dermatitis have been reported. *Liver*—Although no direct relationship to liver dysfunction is established, jaundice and abnormal liver function tests (particularly serum transaminase) have been observed in a few instances. *Cardiovascular*—Instances of hypotension following parenteral administration have been reported, particularly after too rapid IV administration. Rare instances of cardiopulmonary arrest have been reported after too rapid IV administration. If 4.0 grams or more administered IV, dilute in 500 ml of fluid and administer no faster than 100 ml per hour. *Special senses*—Tinnitus and vertigo have been reported occasionally. *Local reactions*—Excellent local tolerance demonstrated to intramuscularly administered Lincocin (lincomycin hydrochloride). Reports of pain following injection have been infrequent. Intravenous administration of Lincocin in 250-to 500 ml of 5% glucose in distilled water or normal saline has produced no local irritation or phlebitis.

HOW SUPPLIED: *250 mg* and *500 mg* Capsules—bottles of 24 and 100. *Sterile Solution, 300 mg per ml*—2 and 10 ml vials and 2 ml syringe. *Syrup, 250 mg per 5 ml*—60 ml and pint bottles.

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lumbia Medical Society and the S.C.M.A. The Chairman stated that at the annual meeting a building committee would be appointed which could negotiate with the Columbia Medical Society. Dr. Tanner added the possibility of assessing each member of S.C.M.A. a certain amount for the building.

Dr. Weston then commented on the meeting of the Speakers Association of the Southeastern United States which involved conduct of conventions and parliamentary procedure. He proposed that a manual be developed including (1) an outline to inform delegates of their duties and responsibilities and (2) an incorpoation of all reports, to be mailed two weeks before the convention in May. Dr. Weston also recommended a meeting with the chairmen of the reference committees, outlining their duties and responsibilities and giving them a small manual to expedite the workings of the convention. Dr. Hawk moved that the recommendations be accepted. Dr. Tanner seconded the motion which was voted on and carried. Dr. Weston added that this would cost approximately three to four hundred dollars.

Dr. Hawk stated that getting typed copies of the committee reports should be anticipated. After discussion, Dr. Hawk moved to amend the above motion to include a provision for secretarial help for the reference committees. Dr. Weston also suggested that those who write the reports might prepare them in two parts; the body, and the recommendations listed at the bottom.

Dr. Weston also mentioned a socio-economic seminar presented by another state medical association for students, internes, and residents concerning practical information which is not taught in the medical school. He stated that this would be another means of motivating and communicating with these people. Dr. Weston recommended that these seminars be considered by S.C.M.A. at a proper time. The Chairman added that he had inquired about the Council's using ETV to present information, and received a favorable answer.

Dr. Hawk moved that at an early date the Council write to the Medical University inviting students, house staff and internes to attend the convention and where possible, be allowed the day off. Dr. Booker had already done so.

Dr. Donald G. Kilgore then presented the annual report on SOCPAC. He also distributed the Federal Election Campaign Act of 1971 Conference Report. And finally, Dr. Kilgore presented a proposed statement of the Council of S.C.M.A. to the Representatives and Senators for consideration.

A discussion by several members followed on this statement. The Chairman and Mr. Meadors stated that it perhaps should go out over the signature of the President.

Dr. Hunter stated that he felt the added note on Page 2 was discriminatory. Dr. Booker moved that this be deleted, which was seconded by Dr. Kilgore, voted on and carried. Dr. Stone added the need for emphasis on fee for service and choice of physician. There will be further study and communication with Dr. Booker on the statement.

Mr. Meadors reminded the Council to send personal checks rather than corporation checks to SOCPAC.

Dr. Weston moved that Dr. Kilgore be given an opportunity to make a report on SOCPAC to the House of Delegates at the convention. Dr. Gilland seconded the motion which was voted on and carried.

Dr. Hawk stated that in the County Medical Society meeting Dr. Edward Parker had presented the paper he had presented to the Southern Surgical Association, analyzing the health care situation. Dr. Hawk asked that Dr. Parker mail a copy of this paper to each member of Council and that the members read this paper before making any decisions or suggestions.

Dr. Tanner read Dr. Forde A. McIver's report on the Hospital Franchising Act. The Committee recommended that the S.C.M.A. go on record as opposing in general the regulatory measures which restrict the opportunities of the private sector while leaving the state and federal governmental sector free of all legal limitations in hospital construction. Also, the committee recommended that the S.C.M.A. Council advise the State Board of Health of its specific objections to the hospital construction franchise; also, that Council

prepare a resolution to be presented to the House of Delegates in May, outlining the objections to the Hospital construction and financing act and urging its leadership to work through its legislative delegation. It was decided that the above recommendations and the remainder of the report be typed and sent to Members of Council.

Dr. Booker moved that the above be received as information. Dr. Holmes seconded the motion which was voted on and carried.

Mr. Meadors discussed the plans for the annual meeting in Myrtle Beach. He stated that the plans were essentially the same as those of last year. A discussion followed by several members in reference to inviting medical students to attend specific meetings at the convention. The consensus of the group was to invite the President of the Student Body to sit in the House of Delegates meeting, and address the group if he so desired. Dr. Hawk also suggested that other students be allowed to sit in the reference committee meetings.

Dr. Edward Parker moved that the Presidents of the junior and senior classes, student body and SAMA, and twenty additional students, be invited to the banquet at the expense of the S.C.M.A.; and that the dean be written in reference to excusing the students for that day. The motion was duly seconded, voted on and carried.

Dr. Weston commented on some of the interviewers for prospective medical students at the Medical University of South Carolina. He added that students who have been interviewed at other universities have perhaps received more personal attention. He suggested that the Medical University might present a better image and be able to attract better students if the interview procedure were improved.

The Chairman commented on the ending of the schedule with Blue Shield last year. He added that nothing could be done except to thank Dr. Holmes and his committee for their efforts since Blue Shield cannot proceed at this time. Dr. Stone added that the report that went to Blue Shield was caught in the freeze and was never presented to the central steering committee.

Dr. Hawk discussed public relations activities and suggested that the S.C.M.A. might employ a part-time public relations person to work with Mr. Pugh.

The motion last summer to introduce legislation in regard to high speed chasing by police was discussed. Mr. Meadors stated that the resolution had been passed but no legislation had been introduced at this time.

Dr. Weston offered his resignation as representative from the Council to the Regional Medical Program, and recommended Dr. Charlie Crews as his replacement. Dr. Tanner moved that the recommendation be accepted. Dr. Kilgore seconded the motion, which was voted on and carried.

The Officers for the South Carolina Foundation for Medical Care were then elected. Dr. Stone moved that the vice-chairman of the Council be made president of the Foundation. Dr. Holmes seconded the motion which was voted on and carried. Dr. Booker nominated Dr. Stone as vice-president of the Foundation. Upon Dr. Holmes' second, the motion was voted on and carried. Dr. Strother Pope was nominated by Dr. Stone as secretary-treasurer of the Foundation. Dr. Holmes seconded the nomination which was voted on and carried. Dr. Tanner moved that Mr. Meadors be made executive director of the Foundation. Dr. Holmes seconded the motion which was voted on and carried.

The meeting was adjourned by common consent.

*"The history of science, and in particular the history of medicine . . . is . . . the history of man's reactions to the truth, the history of the gradual revelation of truth, the history of the gradual liberation of our minds from darkness and prejudice."*

*—George Sarton, from "The History of Medicine Versus the History of Art"*

# Should nongovernment scientists and physicians play a role in drug regulation?

# Opinion

**Results of a questionnaire to 7000 physicians:**

82.8%
**Physicians should play a role**

78.3%
**Independent scientists should play a role**

69.8%
**Medical academicians should play a role**

Opinion & Dialogue

# Dialog

## Should nongovernment scientists and physicians play a role in drug regulation?

## Doctor of Medicine

**Herbert L. Ley, Jr., M.D., M.P.H., Formerly Commissioner, F.D.A. (1968-1969) Currently Medical Consultant**

In order for drug regulation to be effective, participation in the regulatory process from nongovernment physicians and scientists must be encouraged. Without such involvement, there will continue to be a high degree of controversy surrounding any regulations promulgated by the Food and Drug Administration.

There are two areas in which participation and communication by nongovernment physicians and scientists could significantly improve the process of regulation. First, scientists and physicians throughout the country could become involved in consulting relationships with the Food and Drug Administration in important scientific areas while regulatory policies are being evolved. If nongovernment professionals could bring their expertise and experience to bear early in the decision-making process, they would have less reason to criticize the final outcome.

Secondly, practicing physicians, academic physicians, and academic-based scientists could make it their business to comment on proposed regulations appearing in the Federal Register. Ideally, a system could be instituted whereby medical, scientific and technical people could see the Federal Register regularly, and provide the Food and Drug Administration with a body of opinion that has so far gone unheard. The FDA is caught among pressures from industry, Congress, the Presidential Administration and consumers. It should also feel pressures from practicing physicians and scientists.

In order to become more involved in these stages of the drug regulatory process, nongovernment physicians and scientists should begin to exercise their influence through their respective professional organizations,



state and national medical societies, and specialty groups. Logically, a letter from these organizations representing a collective opinion has far greater weight in the regulatory process than individual letters. If the Food and Drug Administration receives opinions from these organizations early, before a regulation gets into the Federal Register, they are in a good position to respond with further study and review. Without such dissenting opinions, there is very little incentive to make changes in proposed regulations.

One instance in which practitioners did influence drug regulatory affairs in this way is the recent controversy that arose over the legitimacy of drug combinations. The strong opinion of practitioners on the value of such medication in clinical practice played a very prominent role in making the Food and Drug Administration modify its rather restrictive policy.

Another way in which practitioners can effectively influence drug regulations is by working with drug manufacturers conducting clinical trials of chemotherapeutic agents. When a drug is rated other than effective it may only mean that there is a lack of controlled clinical evidence as to efficacy. Thus, physicians might offer to conduct clinical studies that could help keep a truly effective drug in the marketplace. The treatment of diseases such as diabetes and angina are areas where the practitioner can aid in clinical studies because patients suffering from these diseases are rarely found in the conventional hospital setting.

By working with ethically and scientifically sound study designs in his everyday practice, the practitioner could begin to play an important part in determining official ratings on drug efficacy.

Nongovernment physicians and scientists and the FDA should also improve their lines of communication to the public. The medical community must develop a voice every bit as loud as that of the consumerists, the press, and others who sometimes criticize without complete information. If not, much of what the medical community *and* federal regulators do will often be represented in simplistic and somewhat misleading terms.

One illustration of the misuse of the media in this regard is the recall of anti coagulant drugs severa years ago. This FDA action was given publicity by the press and television that went far beyond its probable importance. The result was a very uncomfortable situation for the practitioner who had patients taking these medications. Since the practitioner and pharmacist had not been informed of the action by the time it was publicized in most states they were deluged with calls from worried patients.

The practitioner can attempt to solve these problems of inadequate communication in several ways. One would be the creation of a communications line in state pharmacy societies. When drug regulation news is to be announced, the society could immediately distribute a message to every pharmacist in the state. The pharmacist, in turn could notify the physician in his local community so that he and the physician could be prepared to answer inquiries from patients. Another approach would be to use professional publications the practitioner receives.

All of this leads back to my opening contention: drug regulation is to be effective, timely, and related to the realities of clinical practice, a better method of communication and feedback must be developed between the nongovernmental medical and scientific communities and the regulatory agency.

# ue

## Maker of Medicine

**Henry W. Gadsden,**
**rman & Chief Executive**
**fficer, Merck & Co., Inc.**



my opinion, it is the
onsibility of all physi-
s and medical scientists
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k are desirable in a law-
regulation-making
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indicate that this is
happening. For exam-
it is apparent from
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NAS/NRC panels gave
consideration to the
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provided by practic-
physicians.
here are several current
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regulatory affairs. One
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tice claims and litiga-
Another is the effort
overnment to establish
relative efficacy of
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other than the "estab-
d" drug of choice, he
be accused of practic-
something less than
-class medicine. It
ld come perilously
to federal direction of
medicine should be
ticed.
order to minimize this
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d to give practitioners
voice and represen-
tation in government affairs. Government must be caused to recognize the essentiality of seeking their views. One of the difficulties today, however, is that there is no way for concerned practitioners to participate in the early stages of decision-making processes. They usually don't hear about regulations until a proposal appears in the Federal Register, if then. By that time a lot of concrete has been poured, and a lot of boots are in the concrete.

Physicians in private practice, and particularly clinicians, should press for representation on the advisory committees of the Food and Drug Administration, joining with academic and teaching hospital physicians and scientists who are already serving. Though practitioners may not have access to all available information, the value of their clinical experience should be recognized. Clinicians, for example, rightly remind us that difficulty in *proving* precise effects does not necessarily mean a drug is ineffective.

Unless practitioners are more involved in drug regulations, it will be increasingly difficult for the pharmaceutical industry and scientists elsewhere to make optimal progress in drug development. The benefit/risk ratio must be re-emphasized, and as part of this it must be acknowledged that benefit can come from the judgments of medical science as a whole. Even this concept, unfortunately, is not always accepted in drug regulatory processes. For example, if current medical opinion holds that an excess of total lipids and cholesterol in the blood is probably predisposing to atherosclerosis, and if a drug is discovered which reduces total lipids and cholesterol, the drug ought to be accepted *prima facie* as a contribution to medical science . . . until someone disproves the theory. The sponsor should not have to prove the theory as well as to develop and test the drug.

I feel a major new effort must also be made to erase the feeling of mistrust of medicine and of medicines that seems to be growing in the public consciousness. Triggered primarily by strident announcements in Washington, people are reading and hearing confidence-shaking things almost continuously. Although challenge and awareness are essential to medical advancement, our long-term goal is constructively to build, not destroy. This means strengthening patient-physician relationships based on mutual confidence and trust. And in matters of health policy, it means working toward participatory rather than adversary proceedings—where everyone with an interest and a capacity to contribute has an opportunity to be heard . . . and, if that opportunity is not spontaneously afforded him, he may seek it.

## Opinion & Dialogue

**What is your opinion, doctor?**
**We would welcome your comments.**

P·M·A

*The Pharmaceutical Manufacturers Association*
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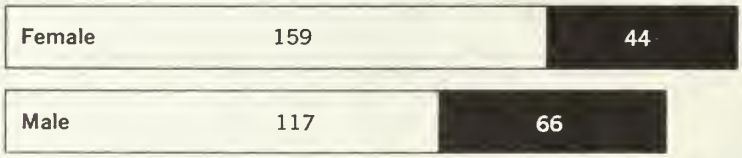
# What it means to live and work in Tipton County, Tennessee

## Persons who are white and over 40 have one chance in four of having solar keratoses... which may be premalignant

An epidemiologic study* conducted in Tipton County, Tennessee, revealed that 28.5% of white persons over 40 had solar keratoses; most had multiple lesions. Cluster sampling projected an estimated prevalence of 32.5% for white males and 19.5% for white females.

Though this is an unusually high percentage of affected persons, these lesions can occur in any white population, wherever people work or play out of doors.

**Prevalence of solar keratoses in white persons over 40 in Tipton County, Tennessee**




*Data on file, Hoffmann-La Roche Inc., Nutley, New Jersey.



## olar, actinic, senile keratoses

alled by many names, the typical lesion is flat slightly elevated, brownish or reddish in lor, papular, dry, adherent, rough, sharply fined; usually multiple lesions, chiefly on posed portions of the skin.

## equence/selectivity of response

rythema in areas of lesions may begin after veral days of therapy; height of reaction nly in affected areas)* usually occurs within o weeks, declining after discontinuation of erapy. Since this response is so predictable, ions that do not respond should be biopsied rule out the presence of a frank neoplasm.

## osmetic results

smetic results are highly favorable. Incince of scarring is low—important with multie facial lesions. Efudex should be applied th care near the eyes, nose and mouth.

## % cream–a Roche exclusive

ly Roche formulates the 5% cream... gh in patient acceptability... high in clinical icacy, especially for lesions of hands and rearms... economical.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Multiple actinic or solar keratoses.

**Contraindications:** Patients with known hypersensitivity to any of its components.

**Warnings:** If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

**Precautions:** If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

**Adverse Reactions:** Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

**Dosage and Administration:** Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

**How Supplied:** Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

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# (fluorouracil)

# cream/solution

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# IN EMPHYSEMA



*optional therapy*

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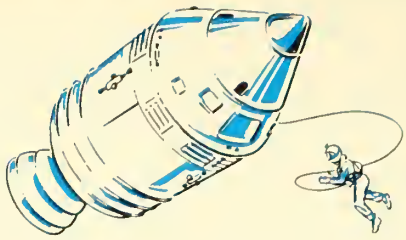
**MUDRANE GG-2**
*A counterpart for Mudrane-2*

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*Man in space, now fait accompli, re-emphasizes the importance of Uro-Phosphate therapy. Research into the effect of space travel on the astronaut reveals that weightlessness causes loss of bone calcium. As the bones are required to bear less and less of the weight of the body they lose calcium, increasing the calcium content of the urine. When physical activity is reduced, the acidity of the urine should be adjusted to keep increased calcium in solution . . . . a prophylaxis to prevent kidney or bladder calculi.*

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*Each tablet contains:* METHENAMINE, *300 mg.;* SODIUM ACID PHOSPHATE, *500 mg.*

Uro-Phosphate gives comfort and protection when inactivity causes discomfort in the urinary function. It keeps calcium in solution, preventing calculi; it maintains clear, acid, sterile urine; it encourages complete voiding and lessens frequency when residual urine is present.

Uro-Phosphate contains sodium acid phosphate, a natural urinary acidifier. This component is fortified with methenamine which is inert until it reaches the acid urinary bladder. In this environment it releases a mild antiseptic keeping the urine sterile.

Uro-Phosphate is safe for continuous use. There are no contra-indications other than acidosis. It can be given in sufficient amount to keep the urine clear, acid and sterile. A heavy sugar coating protects its potency.

**Dosage:**

*For protection of the inactive patient 1 or 2 tablets every 4 to 6 hours is usually sufficient to keep the urine clear, acid and sterile.*

*2 tablets on retiring will keep residual urine acid and sterile, contributing to comfort and rest.*

*A clinical supply will be sent to physicians and hospitals on request.*

WILLIAM P. POYTHRESS & COMPANY, INC., RICHMOND, VIRGINIA 23217

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**Dr. James O. Morphis, Jr.** of Hartsville has been appointed chairman of the South Carolina School Health Committee of the South Carolina Chapter of the American Academy of Pediatrics. Dr. Morphis's purpose will be to make school officials throughout the state more aware of children's health problems and provide them with information regarding the services available to the children, both indigent and non-indigent. **Dr. Benjamin N. Miller** of Columbia has been appointed to the Emory University Regional Research and Rehabilitation Training Center Policy Board. Dr. Miller is a graduate of Duke University and is currently doing graduate work at the University of South Carolina in rehabilitation counseling.

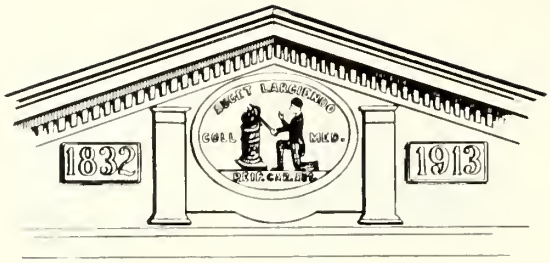
**Dr. Angus Hinson** of Rock Hill has been elected president of the Tri-State Medical Association of the Carolinas and Virginia. **Dr. Max A. Culp** of Fort Mill, will serve as a councillor of the organization. **Dr. Kenneth Aycock** has been named by the State Board of Health workers as Outstanding Employee for 1972. **Drs. Rupert E. Hodges** of Spartanburg and **George L. Irwin** of Greenville have been named Fellows of the American College of Radiology. Both doctors graduated from the Medical University of South Carolina.

**Dr. Middleton H. Lambright** has announced the opening of an office for the practice of general and thoracic surgery at 24 Vendue Range, Charleston. **Dr. Edward Umgelter** has joined **Dr. James N. Cragie** of Loris. Dr. Umgelter received his M.D. degree from the New York Medical College, served his internship in California and completed a four-year residency in surgery in Rochester, New York and Long Branch, New Jersey.

---

**New Members, S. C. M. A.**

**Dr. David C. Burdge**
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**Dr. Wm. Eckstein**
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**Dr. W. Richard Hearne**
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Bell Tower Shopping Center
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**Dr. Cecil L. Quattlebaum, Jr.**
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**Dr. William V. Relyea**
308 79th Ave.
Myrtle Beach, S. C. 29577
**Dr. Lewis N. Terry, Jr.**
100 Mallard St.
Greenville, S. C. 29601




## Medical University of South Carolina

**Drs. E. J. Dennis, Lawrence L. Hester, Jr., Charles C. Stamey, John F. Hooker,** and **E. Frank Shavender** participated in sessions of the Southern Gynecological and Obstetrical Society in Houston, Texas, April 9 through 11.

**Dr. Benjamin F. Lawson** has been appointed dean of the College of Allied Health Sciences. Dr. Lawson is currently professor and chairman of the Dental College's Department of Oral Medicine/Periodontology. He will succeed **Dr. William N. Adams-Smith,** who will return to a full-time position in the College of Medicine's Department of Anatomy.

**Dr. Joseph C. Ross,** professor and chairman of the Department of Medicine at the Medical University of South Carolina, has been appointed by President Nixon to the newly formed National Advisory Panel on Heart Disease.

Dr. Ross has been with the Medical University since July, 1970, coming here from the Indiana University School of Medicine where he was director of the Pulmonary Disease Division and co-director of the Postgraduate Cardiovascular Training Program.

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The Journal of the South Carolina Medical Association

## 50 YEARS AGO

**May, 1922**

Plans were being made for the 75th Anniversary meeting of the South Carolina Medical Association, to be held in 1923. Dr. J. Richard Allison of Columbia advocated a routine Wasserman for all persons.

# TUBERCULOSIS IN SOUTH CAROLINA - 1971

## CASES AND DEATHS RISE WHILE PREVENTION DECLINES

DAVID B. GREGG, M. D.
State Board of Health, Columbia, S. C.

There were 669 new active cases of tuberculosis reported in South Carolina last year. This compares unfavorably with the 618 reported in 1970. There were also 59 reactivations in 1971 compared with 24 in 1970. There were 69 deaths attributed to tuberculosis in South Carolina in 1970 and 73 deaths in 1971. These rising figures should jolt our complacency about tuberculosis and remind us that even though it has dropped to 23rd. place among the leading causes of death it still causes more deaths than all other specific reportable diseases together in the United States.

As bad as these statistics would seem, an even more alarming view is taken by the Tuberculosis Control Division of the data indicating an actual decrease in preventive measures last year. There were 1,686 household contacts to the 669 new and 59 reactivated cases identified last year. Of these 1,573 were examined by chest x-ray and tuberculin tests. Thirty-seven percent (591) had positive tuberculin reactions confirming the high risk of this group. However, only 69.2 percent of this high risk group were begun on preventive treatment with isoniazid. In 1970, 77 percent of the household contacts were begun on preventive treatment. There can be little doubt that this decline in prevention can be attributed to the unfavorable publicity, largely in the lay press, concerning isoniazid and liver toxicity. Unfortunately, less publicity was given to the exhaustive studies in this connection by a panel of experts assembled by the U. S. Public Health Service Center for Disease Control. Their conclusions and recommendations which are in agreement with those of the American Thoracic Society and the National TB-RD Association are essentially as follows:

1. The risk of liver disease associated with isoniazid is small—from 0 to 10 incidences per 1,000 persons per year.

2. Monitoring at monthly intervals for symptoms of incipient liver dysfunction can detect even this small group before serious hepatic damage results and even this is reversible on discontinuing the drug.

3. No changes in the current use of isoniazid for both treatment of active disease and preventive treatment is indicated.

In household contacts the annual risk of developing active tuberculosis is about 1 in 30, a much greater risk than that of liver damage. Furthermore, with preventive treatment, the small risk is only for the year during which isoniazid is taken; whereas the risk of developing active tuberculosis is lifetime. Physicians are urged to support the preventive treatment activities of the health departments and consider this valuable protection for their own patients when indicated. Only by its widespread application can we hope to accelerate the slow decline of tuberculosis, still a very large public health problem.



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**CANDEPTIN (candicidin) provides:**

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CANDEPTIN (candicidin) is significantly more poten *in vitro* than nystatin.[5] CANDEPTIN Vaginal Ointment and Tablets have a clinical record of cure rates of 90% and more in pregnant and non-pregnant patients![1,4,6] In recent studies on CANDEPTIN VAGELETTES Vaginal Capsules, involving both gravid and non-gravid patients, a 100% culture-confirmed cure rate was achieved with a single 14-day course of therapy.[2,3]

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**Description:** CANDEPTIN (candicidin) Vaginal Ointment contains a dispersion of candicidin powder equivalent to 0.6 mg. or 0.06% Candicidin activity in U.S.P. petrolatum. 3 mg. of Candicidin is contained in 5 gm. of ointment or one applicatorful. CANDEPTIN Vaginal Tablets contain Candicidin powder equivalent to 3 mg. (0.3%) Candicidin activity dispersed in starch, lactose and magnesium stearate. CANDEPTIN VAGELETTES Vaginal Capsules contain 3 mg. of Candicidin activity dispersed in 5 gm. U.S.P. petrolatum.

**Action:** CANDEPTIN Vaginal Ointment, Vaginal Tablets, and VAGELETTES Vaginal Capsules possess anti-monilial activity.

**Indications:** Vaginitis due to Candida albicans and other Candida species.

**Contraindications:** Contraindicated for patients known to be sensitive to any of its components. During pregnancy manual Tablet or VAGELETTES Capsule insertion may be preferred since the use of the ointment applicator or tablet inserter may be contraindicated.

**Caution:** During treatment it is recommended that the patient refrain from sexual intercourse or the husband wear a condom to avoid re-infection.

**Adverse Reaction:** Clinical reports of sensitization or temporary irritation with CANDEPTIN Vaginal Ointment, Vaginal Tablets or VAGELETTES Vaginal Capsules have been extremely rare.

**Dosage:** One vaginal applicatorful of CANDEPTIN Ointment or one Vaginal Tablet or one VAGELETTES Vaginal Capsule is inserted high in the vagina twice a day, in the morning and at bedtime, for 14 days. Treatment may be repeated if symptoms persist or reappear.

**Available Dosage Forms:** CANDEPTIN Vaginal Ointment is supplied in 75 gm. tubes with applicator (14-day regimen requires 2 tubes). CANDEPTIN Vaginal Tablets are packaged in boxes of 28, in foil with inserter—enough for a full course of treatment. CANDEPTIN VAGELETTES Vaginal Capsules are packaged in boxes of 14 (14-day regimen requires 2 boxes.)

Store under refrigeration to insure full potency.

Federal law prohibits dispensing without prescription.

**References: 1.** Olsen, J.R.: Journal-Lancet 87:287 (July) 1965. **2.** Giorlando, S.W.: OB/Gyn Dig. *13*:32 (Sept.) 1971. **3.** Decker, A.: Case Reports on File, Medical Department, Julius Schmid. **4.** Giorlando, S.W., Torres, J.F., and Muscillo, G.: Am. J. Obst. & Gynec. 93:370 (Oct. 1) 1964. **5.** Lechevalier, H.: Antibiotics Annual 1959-1960. New York, Antibiotica Inc., 1960. pp. 614-618. **6.** Friedel, F.: Maryland M.J., *15*:36 (Feb.) 1966.

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# APPALACHIA PLANNING

THOMAS PARKER, M.D.
Greenville, S. C.

Last year (1971) a Health Policies Conference was conducted by the Brookings Institute at Furman University to draw up a health policy statement for the Appalachian Region of South Carolina, and to create a permanent organization to implement the policy. The permanent organization is the South Carolina Appalachian Region Health Policy and Planning Council. Attendance was by invitation to select persons of influence in the community, including several doctors of medicine. Occasional reports that meetings were taking place appeared in the local papers. No report of any sort was given to the Greenville County Medical Society.

Dr. Robert E. Toomey, General Director of the Greenville Hospital System, is chairman of the Permanent Task Force. The first meeting of the Permanent Task Force was scheduled for February 14, 1972; and members of the Task Force were invited to submit individual working papers for consideration at this meeting. By chance, the paper submitted by Mr. Ernest E. Cooler of the Pickens County Planning and Development Board received considerable distribution beforehand. This led Mr. J. H. McKinney, Jr. to send to Mr. M. L. Meadors a letter stating that Mr. Cooler's paper was for study purposes only, and had not been adopted by the Permanent Task Force, and enclosing a copy of the Health Policy statement drawn up by the Health Policy Conference. Mr. McKinney fears that Mr. Cooler's paper has created the impression that "the Task Force is about to launch a vindictive campaign against the medical profession." Nothing he says, "could be further from the truth." Mr. McKinney continues, "the group does not seek dictatorial powers over the medical profession, but earnestly desires to cooperate with physicians in every possible way to head off undesirable health care mechanisms imposed from outside our region."

The diction employed in these two documents, allegedly the work of local citizens, is interesting, for it is surely not that in common use in Appalachia. Mr. Cooler's paper is in purest Washington officialese. It commences, "We (the people of the South Carolina Piedmont) recognize the need for more medical doctors, ancillary medical personnel, and allied professionals, as well as the need for improvement of organizational, structural and operational frameworks encompassing the medical profession." It is full of "musts", among which are "primary care physician numbers must reach the national average at an early date." "The number of ancillary medical Professionals needed to reach the national average must be obtained." "The regional overview organization will direct innovations in the organization of health manpower." "A formal regional organization of doctors will be created by mid 1972 and will have as one of its objectives the allocation of medical doctors on a geographic basis." "A formal regional organization of hospitals will be created by mid 1972." "The hospital organization shall require members to enter into agreements —, and shall provide for penalties to those that do not join the regional effort." The paper stresses the necessity for the extensive use of computers, foreseeing ultimately a console in each participating physician's office. This will make available immediate recall of the records of all patients treated by medical doctors in 1973 who wish to enroll in the system.

"The Education Committee of the South Carolina Appalachian Council of Governments will develop a system of integrating personal and community health education into the curriculum of all elementary and secondary education systems."

"One of the principal objectives is the development of a system of financing medical care." It advocates "stimulation and guidance

by enlighted (sic) leaders." There is a lot more of the same, and the organization is "to be recognized by the state government as the Regional Medical Authority for programs and policy making for the region."

The health policy statement in contrast is written in superb United Nations lingo. Paragraph after paragraph commences — "we recognize", "we define", "we assert", "we acknowledge".

One paragraph commences, "At least two major considerations have guided construction of this statement. Each exists conceptually as a void." You can't beat that for "opaque transparency".

Another paragraph runs, "We define health as that state of physical and mental well-being which enables each individual to function at maximum potential in his or her role in society, as comfortably and as satisfactorily as possible. The overall goal is good health of each citizen." This is based upon Aristotle. Further, "We affirm that quality health care is a right of all people. We affirm that it is also the individual responsibility of each person to pursue a course of action that will optimize his or her health status." "We affirm that all persons should have equity of access to quality health care which remains responsive to total needs at reasonable and bearable costs."

"We affirm that the current array of health care services is not equitably available to all people in this region, and that strong efforts must be made by providers, consumers, third-party financers, and government to rectify this situation."

Despite Mr. McKinney's opening statement that the Task Force desires to head off "undesirable health care mechanisms imposed from outside our region", in the writer's opinion this will be impossible as long as the Task Force affirms that "strong efforts must be made — by government to rectify this situation". A united front including government must be run by government. Again, in the writer's opinion, the voice of government is easily discernible in the diction of the two documents, as well as in the condemnation of the existing delivery system. It is also visible


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in the reference to the various alternative methods of delivering medical care that are to be "examined and constantly re-evaluated". "These include, but are not limited to solo practice, group practice, hospital-based practice, health care corporation, health maintenance organization, and medical society foundation." The only other possibilities left are varieties of state medicine, call it what you will. And "constant re-evaluation" should be understood to indicate "new and innovative systems"—i.e., different from the present, the difference very likely to be a difference of kind, not degree.

Interesting too is the affirmation of need for "provision of guidance and evaluation from outside the system". Any honest and well-meaning person welcomes constructive advice. Guidance is another matter. There just might be coercive guidance.

Passing mention might be made of the emphasis upon preventive medicine. As everyone knows, the major causes of death these days are accidents, heart disease, cancer, and stroke. The major contributing factors to these are irresponsible operation of motor vehicles, excessive eating, excessive drinking of alcoholic beverages, and excessive smoking. What preventive action will the Task Force recommend in these fields, and what if the people ignore its recommendations? Will preventive medicine become coercive too, as prohibition of alcohol consumption was, as fluoridation of municipal water supplies is, as sex education in the schools may be?

The trouble with the social reformers is that they are dogmatically righteous. Having observed that the present state of our world is not perfect, and believing that it is possible to make it so by human action through government, they resolve to accept the challenge to make it perfect. When one plan fails, they do not recognize the impossibility of the task as the reason for the failure, but come up fighting, with a new and more expensive plan. As long as planners plan at government expense, however, we may expect to have them with us.

We should be very grateful to Mr. Cooler and Mr. McKinney for making these fascinating documents available to us. In all fairness, the Task Force being nonelective and in no way accountable to the medical profession or the people, such disclosures have to be regarded as a kindness rather than a duty. Such is the state of the land of the free in the year of our Lord 1972.

---

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## THE CONSULTANT'S REPORT

Re: Mrs. Blatz

Dear Doctor:

Rummaging in my desk today I came across a folder which reminded me that I had not reported to you on the patient, Mrs. Blatz, whom you sent to me several months ago. I am sure you will understand that we consultants to whom important cases are referred find it difficult to get our thoughts collected promptly, and naturally we are not bothered, as you would be, by the importunities of the patient and family in reference to the urgent situation which you and I discovered.

The above-captioned patient (whatever that means) was seen by me after an exhausting series of tests ranging from the Abderhalden reaction to Zangemeister's test. A number of these tests were slightly positive, while others which were repeated were contradictory to themselves for some strange reason, and we were finally driven to pouring the liquid elements into the sink and the solids into the usual receptacle. During this process it was discovered that the patient was still alive, and strenuous efforts were made to revive her to the point that a physical examination could be done. As the event seemed doubtful, we quickly repeated all our tests, maintaining the patient in an iron lung with the help of oxygen and a number of the latest stimulant drugs, and finally we were able to make rapid but minute examination of all of the several systems, ruling out this and ruling out that in very short order. After all the ruling out, the patient was found to have an extremely unusual condition, a single case of which has been described by Kunkel, Furstenburger, Gerstenberger, and Klunk in the Zeitschirt für Pure Balogny, Vol. 58, p. 299. We would like very much to have investigated this condition further, but as the patient had already exhausted all her insurance and such funds as she could beg, borrow, or steal, we were forced to discharge her with her condition incompletely diagnosed.

After her recovery from her examination, she was sent home to convalesce from her experience, and we would like very much to have daily reports on her progress.

Enclosed herewith is a 16-page single-spaced electrically typed report in which we conclude in well chosen vague phrases that this is an extremely interesting case and that we will agree fully with your diagnosis whenever it may be made.

Yours in science,

JIW

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**Material for publication should be in the JOURNAL office by the 10th of the month preceding publication.**



## THE SOUTH CAROLINA DEPARTMENT OF MENTAL HEALTH

William S. Hall, M.D.
State Commissioner of Mental Health

Charges for the care and treatment of patients at all facilities of the South Carolina Department of Mental Health will be increased effective July 1, 1972, it has been announced by Dr. William S. Hall, state commissioner of mental health.

There has been no increase in charges since September 1, 1967, it was pointed out by Dr. Hall, and this action came only after long study by the governing board of the Department, the South Carolina Mental Health Commission.

For South Carolina State Hospital, Crafts-Farrow State Hospital, and the Alcohol and Drug Addiction Project, $6.00 per day.

For C. M. Tucker, Jr. Human Resources Center which includes the John M. Fewell Pavilion and the E. Roy Stone, Jr. War Veterans Pavilion, $11.00 per day.

For the William S. Hall Psychiatric Institute, $25.00 per day.

The current charge of $3.50 per day was levied in 1967.

"The Commission has taken this action reluctantly," Dr. Hall said, "but during the past five years the Department and its facilities, as has all business, institutions and private citizens, has had to absorb mounting cost increases in all areas, while at the same time it has had to function within the framework of a limited budget."

Dr. Hall pointed out the charges set by the Department for its facilities have historically been below those charges collected by adjoining states and considerably below the national average. In addition, the charges levied have never reflected the actual cost to the state on a per patient per day basis.

A national survey of state mental hospitals for the past year shows that South Carolina ranked 47th among the states with an average daily expenditure per patient of $7.82, while the national average was $14.89.

All funds coming to the Department from the care and treatment charges go directly toward amortizing bonds that are issued for the construction and renovation of patients' facilities.

"We are now well into what has been a constant renovation and modernization program to generally upgrade all existing structures and to relieve crowded conditions at our two major institutions, State Hospital and Crafts-Farrow," Dr. Hall said.

"We have also approved plans for the construction of a new treatment facility carrying out treatment and design concepts known as the 'Village System' which will go a long way toward updating our program," he added.

The Department is obligated by law to set a realistic charge for the care and treatment of patients, Dr. Hall said, and the new rates, as have those in the past, fully take into account the ability of the patient and/or his family, to pay such charges.

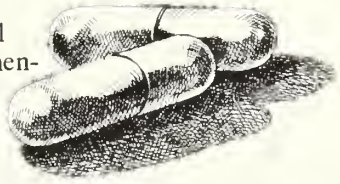
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**Contraindications:** Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

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**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

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THE SOUTH CAROLINA REGIONAL MEDICAL PROGRAM
Vince Moseley, M.D.
Coordinator, South Carolina

## South Carolina Regional Medical Program Records Six Years of Progress

The South Carolina Regional Medical Program observes its Sixth Anniversary this year while preparing for an expansion of its activities to improve health care services for South Carolinians.

The SCRMP was organized in April 1966 as a result of Public Law 89-239 which authorized the establishment of regional medical programs.

Since the SCRMP was initiated, 37 projects have received operational funds and eleven are approved pending funding. In addition, SCRMP has supported dozens of workshops, seminars and conferences and engaged in a score of studies and developmental plans to assist with some of the most pressing health-care problems in the State. Over the 6-year period, SCRMP funding has totalled more than $5,700,000.

Nineteen of the original SCRMP projects have become self-supporting. For the period July 1, 1971 to June 30, 1972, SCRMP has 14 operational projects in action and a total award grant of $1,074,224.

Organization of SCRMP was realized by a joint effort of the Medical University of S. C., the State Board of Health, the S. C. Heart Association, the S. C. Hospital Association and other agencies.

Regional Medical Programs promote through grants the development of regional cooperative arrangements between the health professions and institutions. They are designed to improve regional organization of health resources and services, to enhance health care at the community level and generally to improve personal health care, especially for persons threatened with heart disease, cancer, stroke, kidney and related diseases.

Grant awards are provided to 56 regional medical programs across the Nation by Regional Medical Programs Service, a division of the Health Service and Mental Health Administration, HEW, Washington, D. C.

The SCRMP is under the direction of a 72-member statewide Regional Advisory Group which is representative of practicing physicians, dentists, nurses, State Board of Health, professional and volunteer health organizations, educational representatives and interested citizens.

Dr. James W. Colbert, Jr., vice-president for Academic Affairs of the Medical University of S. C. at Charleston, is chairman of the group. Dr. Louis P. Wright, Jr., of Florence, is vice-chairman. The co-chairman is William B. Finlayson, administrator at the Conway Hospital. Dr. Vince Moseley, Charleston, coordinator for the S. C. Regional Medical Program, serves as secretary.

Concurrent with the observance of the Sixth Anniversary of SCRMP, the Regional Advisory Group met in Myrtle Beach April 29-30 to consider proposals for an expansion of SCRMP activities from categorical emphasis (heart disease, cancer, stroke, kidney and related disease) to broader cooperative efforts in health care delivery.

Some SCRMP contributions to improved health care during its first six years of operation are as follows:

_____ RMP funding assisted in the achievement of a Kidney Transplant Program in South Carolina.

Since 1968, SCRMP projects have contributed directly to the care of over 6,000 heart patients, 45,000 cancer patients or screening program participants, 400 stroke patients and 180 renal patients.

SCRMP projects have held instructional programs having a total attendance of more than 10,000 physicians, over 18,000 registered nurses, and over 10,000 occupational and technical aides.

Enrollment in health careers, reflecting SCRMP sponsored recruitment and education programs of the S. C. Hospital Association, increased from 1,802 to 3,768 in the past three years. Health materials have been given to 300,000 individuals, resulting in over 25,000 inquiries for further information.

A Television-Telephone network has been established to enable conferences and consultations directed toward patient care, linking 11 hospitals throughout the State.

A Computer Network to the Medical University of S. C. Hospital has been established to assist in improved dosimtery calculations for radiation treatment of cancer, with linkages to two other hospitals in the State.

Heart and Cancer Clinics have been actively supported with RMP grants administered by the State Board of Health.

SCRMP sponsored Acute and Chronic Stroke Projects at Columbia Hospital have demonstrated the value of such programs with lowering of acute mortality from approximately 52% to 19%.

SCRMP has contributed to lowering of mortality of those with acute myocardial infarction during the first week of illness from about 35% to 18-20% through the training of nurses and physicians in the use of monitoring equipment. During the past four years, hospitals utilizing this equipment have expanded from three to 33 hospitals.



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**Contraindications:** Hypersensitivity to sulfonamides, infants less than 2 months of age (except adjunctively with pyrimethamine in congenital toxoplasmosis), pregnancy at term, and during the nursing period.

**Warnings:** Safety of sulfonamides in *pregnancy* has not been established. Sulfonamides will not eradicate group A streptococci. Deaths associated with sulfonamide administration have been reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Clinical signs such as sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. Complete blood counts and urinalyses with careful microscopic examination should be performed frequently during sulfonamide therapy.

**Precautions:** Use with caution when impaired renal or hepatic function, severe allergy or bronchial asthma is present. In glucose-6-phosphate dehydrogenase-deficient individuals, hemolysis (frequently a dose-related reaction) may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias:* Agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia, methemoglobinemia. *Allergic reactions:* Erythema multiforme (Stevens-Johnson syndrome), generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia, allergic myocarditis. *Gastrointestinal reactions:* Nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis, stomatitis. *C.N.S. reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, somnia. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L.E. phenomenon have occurred with sulfonamide therapy. Sulfonamides bear certain chemical similarity to some goitrogens, diuretics and oral hypoglycemic agents. Goiter production, diuresis and hypoglycemia have occurred rarely in patients receiving sulfonamides. Cross-sensitivity may exist with these agents.

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## MEETINGS

### Course in Postgraduate Gastroenterology

The Annual Course in Postgraduate Gastroenterology of the American College of Gastroenterology will be given at the Hotel Bonaventure in Montreal, Canada, October 19, 20, and 21, 1972, immediately following the 37th Annual Convention of the College which will also be held there on 16, 17, 18 October 1972.

The faculty for the Course will include many distinguished teachers from both the United States and Canada.

Further information and enrollment may be obtained from:

The American College of Gastroenterology
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All members of the medical and related professions and medical students are invited to attend this conference. Advance registration is requested. There is no registration fee.

### Postgraduate Cruise

The College of Medicine, Division of Postgraduate Education, University of Florida would like to extend an invitation to South Carolina physicians and their wives to join Florida physicians on the FIRST ANNUAL POSTGRADUATE INVITATIONAL CRUISE aboard the M/S Skyward February 3 - 10, 1973, out of Miami, Florida, to ports in Haiti, Puerto Rico, the Virgin Islands, and Nassau. This 7-day cruise program has been designed to appeal primarily to, but certainly not limited to, physicians practicing internal medicine, family practice, or thoracic surgery. E. Grey Dimond, M.D., Provost for the Health Sciences, Professor of Medicine, University of Missouri at Kansas City, is special guest speaker. Application for credit hours has been made to the American Academy of General Practice.

The *program fee per physician* will be *$150* with a *cabin deposit of $100 per person* due by *May 15, 1972.* Requests for additional information, program contents, reservation forms, and brochure mailings should be addressed to:

Dr. Lamar Crevasse
Assistant Dean
Postgraduate Education
Box 746 – MSB
J. Hillis Miller Health Center
University of Florida
Gainesville, Florida 32601

## DEATHS

### DR. R. W. THOMAS

Dr. Richard Ward Thomas, 43, of 1329 Cardinal Drive in Columbia, died at his home on March 12. Dr. Thomas was Vice Chief-of-Staff of Lexington County Hospital and a member of the American Medical Association, the South Carolina Medical Association and the Columbia Medical Society. He was a 1957 graduate of the Medical University of South Carolina and had practiced in West Columbia since 1958.

### DR. O. B. WILSON

Dr. Oscar Britton Wilson, 89, of 5206 Lakeshore Drive in Columbia, died March 18 in the Providence Hospital. Dr. Wilson was a graduate of the Medical University of South Carolina and had studied urology and surgery in New York City. He had special training at Johns Hopkins. Dr. Wilson practiced medicine in Spartanburg for more than 50 years prior to moving to Columbia five years ago. He was a member of the Spartanburg Medical Association.

## DR. J. F. BONIFACE

Dr. John Francis Boniface, 50, died April 1 at Mary Black Hospital in Spartanburg after a long illness. He was a radiologist at the Mary Black Hospital and was a member of the American Medical Association, the South Carolina Medical Association, the Spartanburg County Medical Society, and the Southern Medical Association. Dr. Boniface was also a member of the American College of Radiology and a diplomate of the American Board of Radiology.

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## Clinical Center Study of Patients With Ovarian Carcinoma

The cooperation of physicians is requested in the referral of patients for a controlled clinical trial of the treatment of advanced ovarian carcinoma being conducted by the National Cancer Institute's Solid Tumor Service at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Previously untreated patients with serious or undifferentiated ovarian carcinomas Stage III or IV (International Classification) are needed for this study.

Of particular interest are patients with ascites, since pretreatment assessment of aspects of the cell cycle estimations of the effectiveness of each dose of administered drug and other studies are performed on available tumor tissue prior to therapy.

Upon completion of their studies, patients will be returned to the care of the referring physician who will receive a summary of findings.

Physicians interested in having their patients considered for admission to these studies may telephone:

Vincent T. DeVita, M.D. *or* Robert C. Young, M.D., 301-496-2031

*or write:*

Admitting Office
National Cancer Institute
Clinical Center, Room 4-B-17
Bethesda, Maryland 20014

---

## Clinical Center Study of Patients With Australia Antigen Positive Hepatitis

The cooperation of physicians is requested in the referral of patients with acute viral hepatitis, Australia antigen positive, for studies being conducted by the National Institute of Arthritis and Metabolic Diseases at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Needed are patients for in-patient studies of immunologic reactivity. Preference will be given to those individuals who are in the early stages of the disease. Patients who are addicted to drugs, who have chronic hepatitis, or who have any other serious chronic disease will not be considered. Patients who have severe hepatitis with impending coma or abnormal prothrombin time would not be good candidates.

Upon completion of their studies, patients will be returned to the care of the referring physician who will receive a summary of findings.

Physicians interested in having their patients considered for admission to this study may write or telephone:

Paul H. Plotz, M.D.
Clinical Center, Room 9N-210
National Institutes of Health
Bethesda, Maryland 20014
Phone: 301-496-14794

*or*

Saul Agus, M.D.
Clinical Center, Room 9D-15
National Institutes of Health
Bethesda, Maryland 20014
Phone: 301-496-4201

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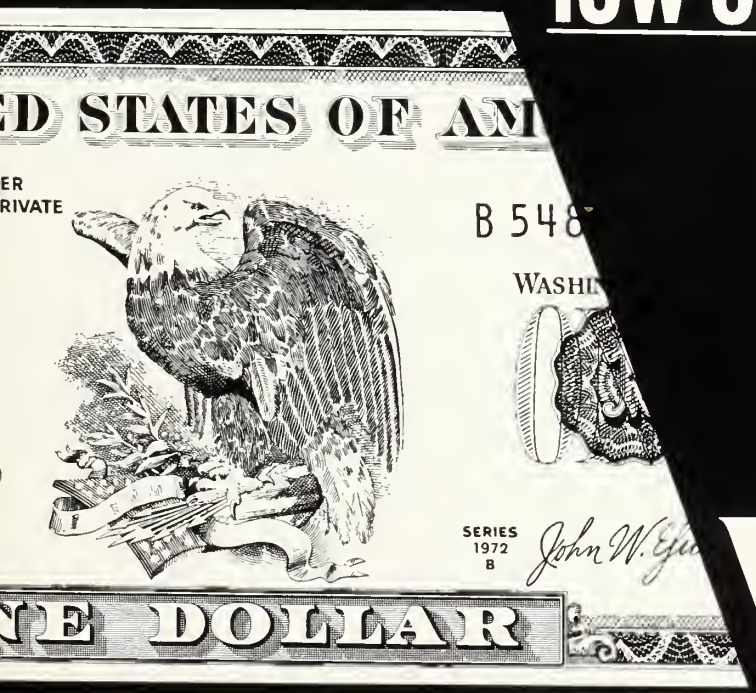
The **Department of Obstetrics and Gynecology, Duke University Medical Center** is sponsoring the "1972 Walter L. Thomas Symposium on Gynecological Malignancy and Surgery". This symposium will be held at Duke University Medical Center, Durham, North Carolina on September 15 and 16, 1972. The two day symposium will be clinically oriented with the main emphasis on "Why Cancer Treatment Fails and its Subsequent Management, Hormonal Aspects of Endometrial Cancer and Urinary Incontinence Problems". It is designed for the practitioners and residents in Obstetrics and Gynecology.

Inquiries should be addressed to W. T. Creasman, M.D., Director of Gynecological Oncology, Post Office Box 3079, Duke University Medical Center, Durham, North Carolina 27710.

---

PHYSICIAN – INTERNIST OR GENERAL PRACTITIONER NEEDED IMMEDIATELY. 500-BED AFFILIATED GENERAL HOSPITAL LOCATED IN HISTORIC CHARLESTON, S. C. SALARY CONTINGENT UPON QUALIFICATIONS AND PROFESSIONAL ATTAINMENT. EXCELLENT FRINGE BENEFITS. NEW HOSPITAL, EXCELLENT FACILITIES FOR TEACHING AND RESEARCH. FOR FURTHER DETAILS CONTACT CHIEF OF STAFF, VETERANS ADMINISTRATION HOSPITAL, CHARLESTON, S. C. 29403.

# Something new in ampicillin therapy: **low cost**




## Versapen®-K
POTASSIUM HETACILLIN

the ampicillin derivative

Each capsule contains potassium hetacillin equivalent to 225 mg. or 450 mg. ampicillin.

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Division of Bristol-Myers Company
Syracuse, New York 13201

# Will his return to work mean the return of undue psychic tension?



When it's mandatory to keep the post-coronary patient calm, consider Valium (diazepam).

Although he's promised to take it easy back on the job, you know he's going back to the same stressful circumstances that may have contributed to his hospitalization. If he experiences excessive anxiety and tension because of overreaction to stress, your prescription for Valium can bring relief. During the period of readjustment Valium can quiet undue anxiety.

For moderate states of psychic tension, 5-mg or 2-mg Valium tablets *b.i.d.* to *q.i.d.* can usually provide reliable relief. For severe tension/anxiety states, the 10-mg tablets often produce desired results.

The most commonly reported side effects are drowsiness, ataxia and fatigue. Until individual response is determined, caution patient against driving or operating dangerous machinery.

## Valium® (diazepam)

### For the tense cardiac patient who must be kept calm

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect. *Adults*: Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children*: 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.

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Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

10 Shattuck Street
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# The Journal of The SOUTH CAROLINA Medical Association

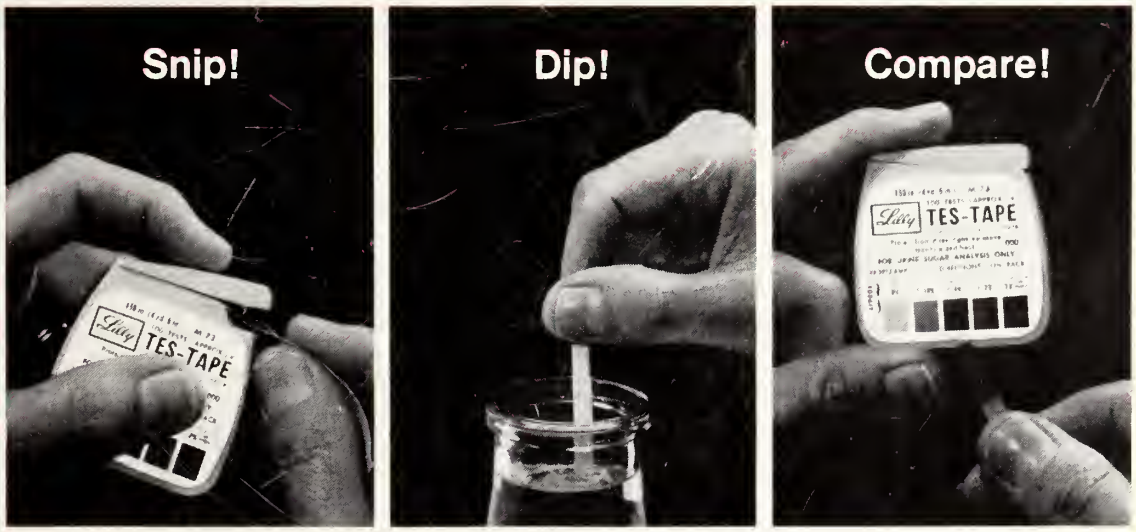

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CERVICAL CANCER SCREENING

A LOCAL HABITATION

HYPERVENTILATION IN DROWNING

IE 68 JUNE, 1972 NUMBER 6


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**TES-TAPE®**
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100133



Everybody experiences psychic tension.



Most people can handle this tension.



Some people develop excessive psychic tension and need your counselin



and a few may need counseling
*and* the psychotropic action of Valium® (diazepam).

Before deciding to make Valium
azepam) part of your treatment
n, check on whether or not the
ient is presently taking drugs
l, if so, what his response has
n. Along with the medical and
ial history, this information can
p you determine initial dosage,
possibility of side effects and
ultimate prospects of success
ailure.

While Valium can be a most
ful adjunct to your counseling,
ould be prescribed only as long
xcessive psychic tension per-
s and should be discontinued
en you decide it has accom-
hed its therapeutic task. In
eral, when dosage guidelines
followed, Valium is well
rated (see Dosage). For con-
ience it is available in 2-mg, 5-mg
10-mg tablets.

Drowsiness, fatigue and ataxia
e been the most commonly re-
ted side effects.

Until response is determined,
ents receiving Valium should
autioned against engaging in
ardous occupations requiring
plete mental alertness, such
driving or operating machinery.

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10 JUL 1972

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

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**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.

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# Valium®
# (diazepam)

To help you manage excessive psychic tension

# When you prescribed Orinase®

## (tolbutamide, Upjohn)

# 14 years ago, you had to rely on our experience.

An orally active hypoglycemic agent principally indicated in relatively mild, adult, maturity-onset, non-ketotic diabetes; also, as a supplement to insulin therapy in selected diabetic patients, it may effect a stabilization of labile diabetes and reduce insulin requirements. Certain patients intolerant to chlorpropamide therapy at usual therapeutic doses have subsequently been successfully managed with Orinase (tolbutamide).

Use in mild asymptomatic diabetic patients with abnormal glucose tolerance tests not responding to diet therapy may result in improvement of the glucose tolerance test.

Use in conjunction with phenformin is indicated when optimal control is not obtained with Orinase or phenformin alone.

**Contraindications:** Orinase alone is not effective in juvenile or growth-onset diabetes nor in unstable brittle diabetes where insulin therapy is required.

Orinase should not be used: when diabetes is complicated by acidosis, ketosis, or coma, or when a history of repeated bouts of acidosis or coma is obtained; in the presence of other acute complications such as fever, severe trauma, or infections; and in patients with severe renal insufficiency. Insulin is indicated in these circumstances.

**Pregnancy Warning:** The safety and usefulness of Orinase during pregnancy has not been established either from the standpoint of the mother or the fetus. Animal studies have demonstrated feticidal and teratogenic effects of doses of 1,000-2,500 mg./kg./day, but application to human subjects unknown. Therefore, Orinase is not recommended for the pregnant diabetic, and when administering Orinase to women of childbearing age, these facts should be borne in mind.

**Precautions:** Diagnostic and therapeutic measures necessa for optimal control with insulin are also necessary with Orinas The patient on Orinase must be fully instructed: about t nature of his disease; how to prevent and detect complication how to control his condition; not to neglect dietary restriction develop a careless attitude or disregard instructions relative body weight, exercise, personal hygiene, and avoidance of i fection; how to recognize and counteract impending hypogl cemia; how and when to test for glycosuria and ketonuria; h to use insulin; and to report to the physician immediately if does not feel as well as usual.

Caution, very close observation, and careful adjustment dose are necessary when: insulin is withdrawn during the t period in order to avoid ketosis, acidosis, and coma; thiazi diuretics are administered which may result in aggravation diabetic state and increased tolbutamide requirement, tem rary loss of control, or even secondary failure; treating patie with impaired hepatic and/or renal function and debilitated, m nourished, or semistarved patients in order to avoid severe hy glycemia which may require corrective therapy over seve days; and treating patients with severe trauma, infection, or s gical procedures where temporary return to insulin or addit of insulin may be necessary. Response to tolbutamide is dim ished in patients receiving therapy with beta blocking ager

As some diabetics are not suitable candidates, it is essen that the physician familiarize himself with the indications, lin of application, and selection of patients for therapy.

Patients must be under continuous medical supervision, during the initial test period should communicate with the ph

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If you're around 40 or 45, you've ably had quite a bit of clinical experience Orinase.

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On the one hand, you know that diet veight control are the initial and essential dations for the management of adult-, non-ketotic diabetes. When these ures prove satisfactory, no additional py is indicated. On the other hand, you that if these measures fail the addition of Orinase to the regimen can often help lower blood sugar. Orinase lowers blood sugar as effectively today as it did when you first prescribed it.

You also know the importance of close monitoring of the patient. Although uncommon, severe hypoglycemia may occur if the dosage is not tailored to suit his requirements.

In short, Orinase is a drug you're familiar with, and probably have confidence in.

And that may be the best recommendation Orinase can have.

## Orinase®

0.5 g. tablets

(tolbutamide, Upjohn)

daily, and during the first month report at least once weekly ysical examination and definitive evaluation. After a month, inations are recommended monthly or as indicated. Ap- nce of ketonuria, increase in glycosuria, unsatisfactory ing or persistent elevation of blood sugar, or failure to n and hold clinical improvement indicate nonresponsive- o Orinase (tolbutamide). Orinase does not obviate need for aining standard diet regulation. Uncooperative patients d be considered unsuitable for therapy. Prescriptions should filled only on specific instruction of physician. In treating asymptomatic diabetic patients with abnormal glucose nce, glucose tolerance tests should be obtained at three- -month intervals. Orinase is not an oral insulin or a substi- or insulin and must not be used as sole therapy in juvenile tes or in diabetes complicated by acidosis or coma where n is indispensable.

henformin is prescribed in combination with Orinase, ap- iate package literature should be consulted.

**verse Reactions:** Severe hypoglycemia, though uncommon, ccur and may mimic acute neurologic disorders such as ral thrombosis. Certain factors such as hepatic and renal se, malnutrition, advanced age, alcohol ingestion, and nal and pituitary insufficiency may predispose to hypogly- a and certain drugs such as insulin, phenformin, sulfona- s, oxyphenbutazone, salicylates, probenecid, monamine se inhibitors, phenylbutazone, bishydroxycoumarin, and yramidol may prolong or enhance the action of Orinase and ase risk of hypoglycemia. Orinase long-term therapy has reported to cause reduction in RAI uptake without producing clinical hypothyroidism or thyroid enlargement and at high doses is mildly goitrogenic in animals. Photosensitivity reactions, disulfiram-like reactions after alcohol ingestion, and false-positive tests for urine albumin have been reported.

Although usually not serious, gastrointestinal disturbances (nausea, epigastric fullness, and heartburn) and headache appear to be dose related and frequently disappear with reduction of dose or administration with meals. Allergic skin reactions (pruritus, erythema, urticaria, and morbilliform or maculopapular eruptions) are transient, usually not serious, and frequently disappear with continued administration. Orinase should be discontinued if skin reactions persist. Recent reports indicate that long-term use of Orinase has no appreciable effect on body weight.

Orinase appears to be remarkably free from gross clinical toxicity: crystalluria or other renal abnormalities have not been observed; incidence of liver dysfunction is remarkably low and jaundice has been rare and cleared readily on discontinuation of drug (carcinoma of the pancreas or other biliary obstruction should be ruled out in persistent jaundice); leukopenia; agranulocytosis; thrombocytopenia; hemolytic anemia; aplastic anemia; pancytopenia; and hepatic porphyria and porphyria cutanea tarda have been reported.

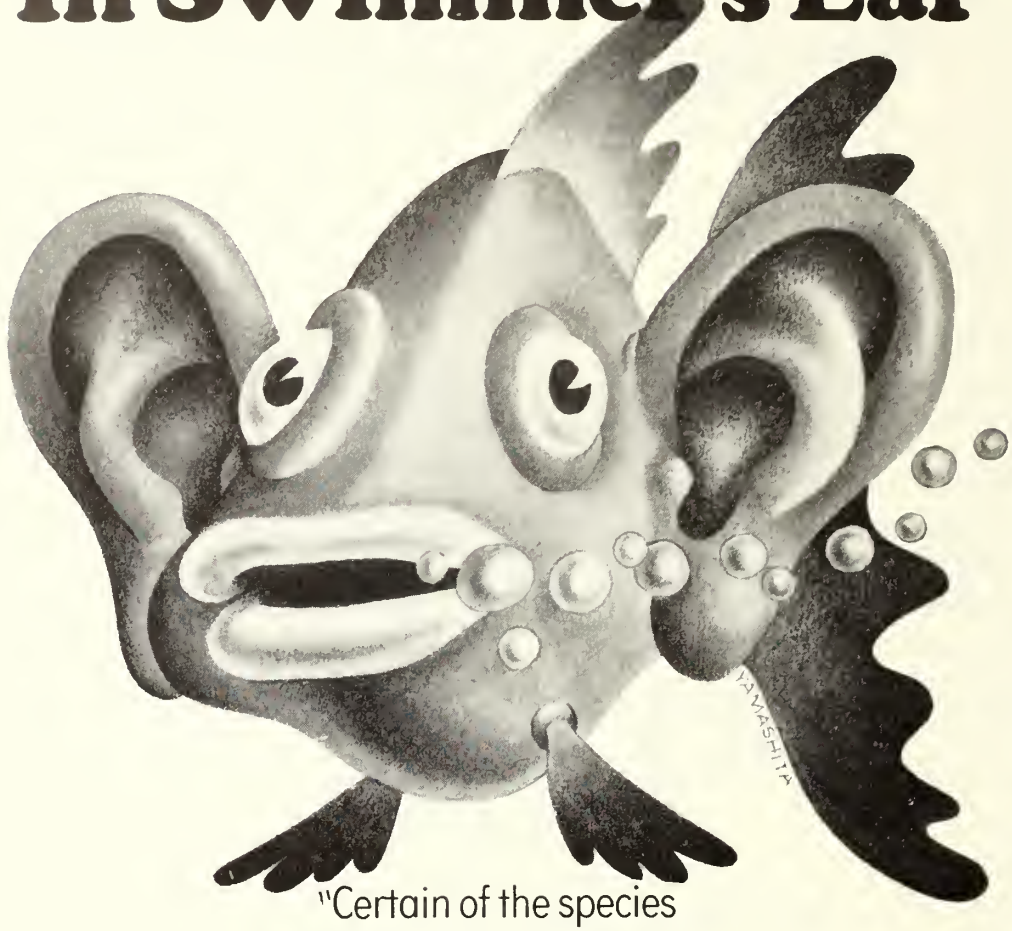
**Supplied:** *0.5 g. Tablets*—bottles of 50, 200, 500, and 1,000, and cartons of 100 in foil strips.

**For additional product information, see your Upjohn representative or consult the package insert.**

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# In Swimmer's Ear




"Certain of the species
are apt to encounter aural
difficulties after engaging in various
natatory pursuits."

# Furacin® Otic

## (nitrofurazone) antibacterial/anesthetic/antifungal

**Formula:** Contains (w/w) 0.2% FURACIN, brand of nitrofurazone, 0.375% Micafur®, brand of nifuraxime, and 2% diperadon hydrochloride dissolved in water-soluble, nondrying, hygroscopic polyethylene glycol.

**Indications:** For treatment of bacterial otitis externa, bacterial otitis media and otomycosis. In otitis media, this preparation is not effective if the tympanic membrane is intact.

FURACIN (nitrofurazone) and Micafur (nifuraxime) are active against a variety of gram-positive and gram-negative organisms. Activity versus Pseudomonas sp. is limited to certain strains. Micafur (nifuraxime) is active against Candida (Manilia) albicans.

**Precautions:** Sensitization may occur with prolonged use and is more likely to develop in eczematous otitis externa. To minimize such reactions (a) limit application to a week or less, and (b) avoid use of excessive amounts which may run down the face.

This preparation is not indicated for use in treatment of cholesteatoma, where surgical intervention is necessary.

**Supplied: Bottle of 15 cc. with dropper.**

®Originators and Developers of The Nitrofurans
EATON LABORATORIES
Division of The Norwich Pharmacal Company
NORWICH, NEW YORK 13815

# if skin is infected, or open to infection...

# choose the topicals that give your patient–

- broad antibacterial activity against susceptible skin invaders
- low allergenic risk—prompt clinical response

## Special Petrolatum Base
## Neosporin® Ointment
(polymyxin B-bacitracin-neomycin)

Each gram contains: Aerosporin® brand polymyxin B sulfate, 5000 units; zinc bacitracin, 400 units; neomycin sulfate 5 mg. (equivalent to 3.5 mg. neomycin base); special white petrolatum q. s.
In tubes of 1 oz. and ½ oz. for topical use only.

## Vanishing Cream Base
## Neosporin®-G Cream
(polymyxin B-neomycin-gramicidin)

Each gram contains: Aerosporin® brand polymyxin B sulfate, 10,000 units; neomycin sulfate, 5 mg. (equivalent to 3.5 mg. neomycin base); gramicidin, 0.25 mg., in a smooth, white, water-washable vanishing cream base with a pH of approximately 5.0. Inactive ingredients: liquid petrolatum, white petrolatum, propylene glycol, polyoxyethylene polyoxypropylene compound, emulsifying wax, purified water, and 0.25% methylparaben as preservative.
In tubes of 15 g.

NEOSPORIN for topical infections due to susceptible organisms, as in impetigo, surgical after-care, and pyogenic dermatoses.

*Precaution:* As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

*Contraindications:* Not for use in the external ear canal if the eardrum is perforated. These products are contraindicated in those individuals who have shown hypersensitivity to any of the components.

Complete literature available on request from Professional Services Dept. PML.

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Research Triangle Park
North Carolina 27709



# rheumatoid arthritic blowup...

## Tandearil® Geigy

oxyphenbutazone NF

tablets of 100 mg.

*mportant Note:* This drug is not a simple analgesic. )o not administer casually. Carefully evaluate patients ıefore starting treatment and keep them under close upervision. Obtain a detailed history, and complete hysical and laboratory examination (complete ıemogram, urinalysis, etc.) before prescribing and at requent intervals thereafter. Carefully select patients, ıvoiding those responsive to routine measures, con-raindicated patients or those who cannot be observed requently. Warn patients not to exceed recommended losage. Short-term relief of severe symptoms with he smallest possible dosage is the goal of therapy. )osage should be taken with meals or a full glass of nilk. Patients should discontinue the drug and report mmediately any sign of: fever, sore throat, oral esions (symptoms of blood dyscrasia); dyspepsia, ıpigastric pain, symptoms of anemia, black or tarry tools or other evidence of intestinal ulceration or ıemorrhage, skin reactions, significant weight gain or ıdema. A one-week trial period is adequate. Discon-inue in the absence of a favorable response. Restrict reatment periods to one week in patients over sixty. *ndications:* Acute gouty arthritis, rheumatoid arthritis, heumatoid spondylitis.

*Contraindications:* Children 14 years or less; senile ıatients; history or symptoms of G.I. inflammation or ılceration including severe, recurrent or persistent lyspepsia; history or presence of drug allergy; blood lyscrasias; renal, hepatic or cardiac dysfunction; ıypertension; thyroid disease; systemic edema; tomatitis and salivary gland enlargement due to the lrug; polymyalgia rheumatica and temporal arteritis; ıatients receiving other potent chemotherapeutic ıgents, or long-term anticoagulant therapy.

*Warnings:* Age, weight, dosage, duration of therapy, xistence of concomitant diseases, and concurrent otent chemotherapy affect incidence of toxic reac-ions. Carefully instruct and observe the individual ıatient, especially the aging (forty years and over) vho have increased susceptibility to the toxicity of the lrug. Use lowest effective dosage. Weigh initially ınpredictable benefits against potential risk of severe, even fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hema-tologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

*Precautions:* The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

*Adverse Reactions:* This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angiitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement.

(B)98-146-800-E

*For complete details, including dosage, please see full prescribing information.*

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Division of CIBA-GEIGY Corporation
Ardsley, New York 10502

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

**Contributions of Original Articles**

Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

Manuscripts—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

Illustrations—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

References—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, Arch Int Med 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard—e.g. mg, ml, Gm.

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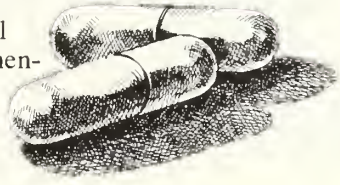
# Because you practice medicine in the Palmetto State...



# You carry one of the heaviest patient loads in the country. Since this may include a number of patients with gastritis and duodenitis... you should know more about Librax®

## Helps reduce anxiety-related G.I. symptoms

A patient may blame his attacks of gastritis or duodenitis on "something he ate" but contributing factors may be his job, marital problems, financial worries or some other unmentioned source of stress and excessive anxiety that exacerbated the condition. Whether it is "something he ate" or "something eating him," adjunctive Librax can help. Librax offers both the antianxiety action of Librium® (chlordiazepoxide HCl), that can help relieve excessive anxiety, and the dependable anticholinergic action of Quarzan® (clidinium Br), that can help reduce gastrointestinal hypermotility and hypersecretion.



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# To help relieve anxiety-linked symptoms in gastritis and duodenitis

# adjunctive Librax®

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Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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# Literary Hemorrhoids

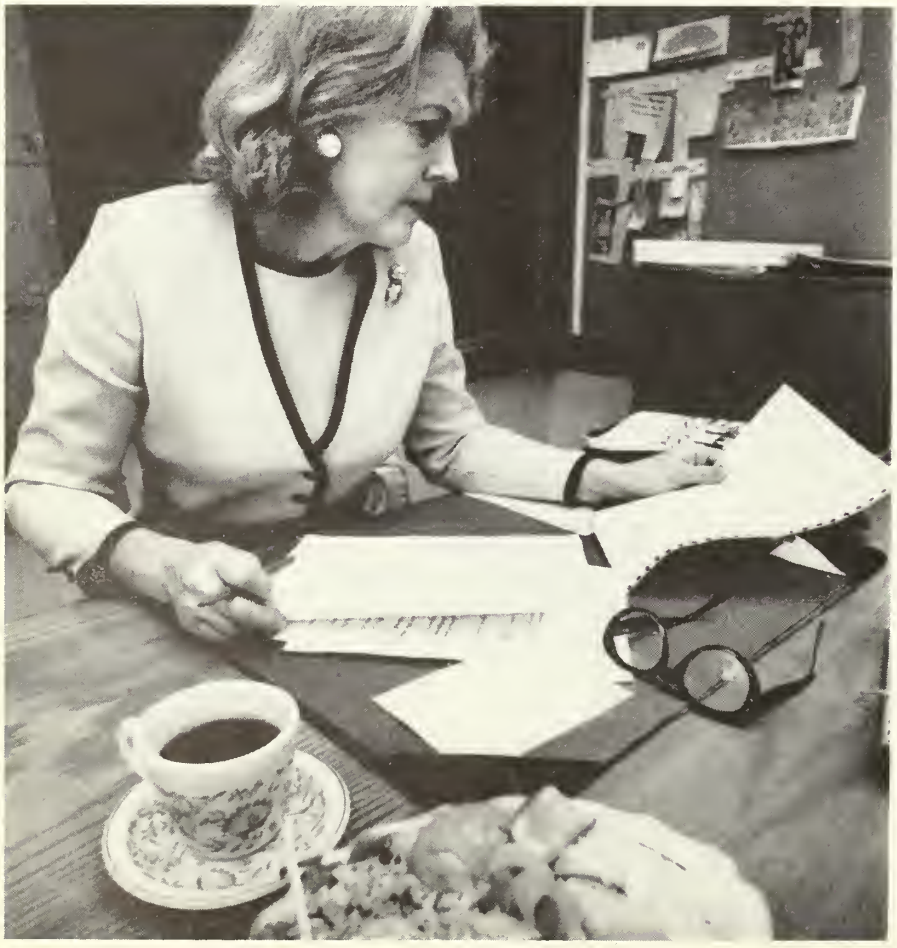
Mrs. S.R., 47, high school English teacher. A history of anorectal pain and burning of several years' duration. On and off weight reducing diets, the insufficient bulk of which has aggravated a chronic constipation problem. Subsequent straining at stool has precipitated an acute episode of internal-external hemorrhoids.



a typical proctological patient

to help relieve the pain, itching, burning associated with this and similar anorectal conditions

prescribe



## Anusol-HC®

hemorrhoidal suppositories with hydrocortisone acetate

Each suppository contains hydrocortisone acetate 10 mg, bismuth subgallate 2.25%, bismuth resorcin compound 1.75%, benzyl benzoate 1.2%, Peruvian balsam 1.8%, zinc oxide 11.0%, and boric acid 5.0%, plus the following inactive ingredients: bismuth subiodide, calcium phosphate, and coloring in a bland hydrogenated vegetable oil base.

**Precaution** Prolonged or excessive use of Anusol-HC might produce systemic corticosteroid effects. Symptomatic relief should not delay definitive diagnosis or treatment.

**Dosage and Administration** Anusol-HC: One suppository in the morning and one at bedtime for 3 to 6 days or until the inflammation subsides. Regular Anusol: One suppository in the morning, one at bedtime and one immediately following each evacuation.

And for long-term patient comfort...recommend Anusol® hemorrhoidal suppositories. Each suppository contains the ingredients of Anusol-HC without the hydrocortisone.

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Current G.U. Research

# Gantanol® in animals
## (sulfamethoxazole)



control



12.5 mg sulfamethoxazole/kg of body weight



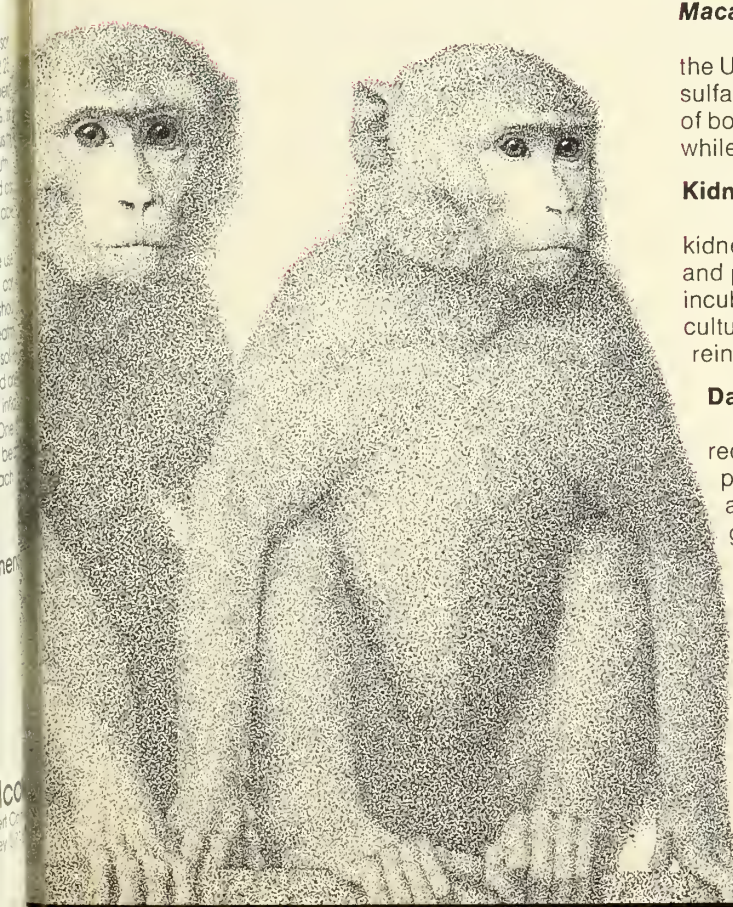
50 mg of sulfamethoxazole/kg of body weight



100 mg of sulfamethoxazole/kg of body weight

## Tissue slice technique maps renal distribution in animal studies

**Please note that while the method described may add to the knowledge of how antibacterial agents are distributed in the kidney of this animal, no conclusions can be drawn from this study relative to the drug's distribution, effect or use in humans, as it is not possible to extrapolate animal data to humans.**



### Gantanol® (sulfamethoxazole) administered to *Macaca speciosa* monkeys

Working with *Macaca speciosa* monkeys, researchers at the University of Arkansas Medical Center administered sulfamethoxazole at doses of 12.5 mg, 50 mg and 100 mg/kg of body weight. Each dosage level was given to three animals while three were left untreated as controls.*

### Kidneys inoculated with *Staphylococcus aureus*

After 2½ hours, the 12 monkeys were sacrificed and their kidneys frozen with $CO_2$. Sagittal tissue slices were prepared and placed on blood agar bacteriological plates. They were incubated at 37°C. for 1½ hours. *Staphylococcus aureus* broth culture was then used to inoculate the tissue and slices were reincubated.*

### Dark staining reveals heavy bacterial growth

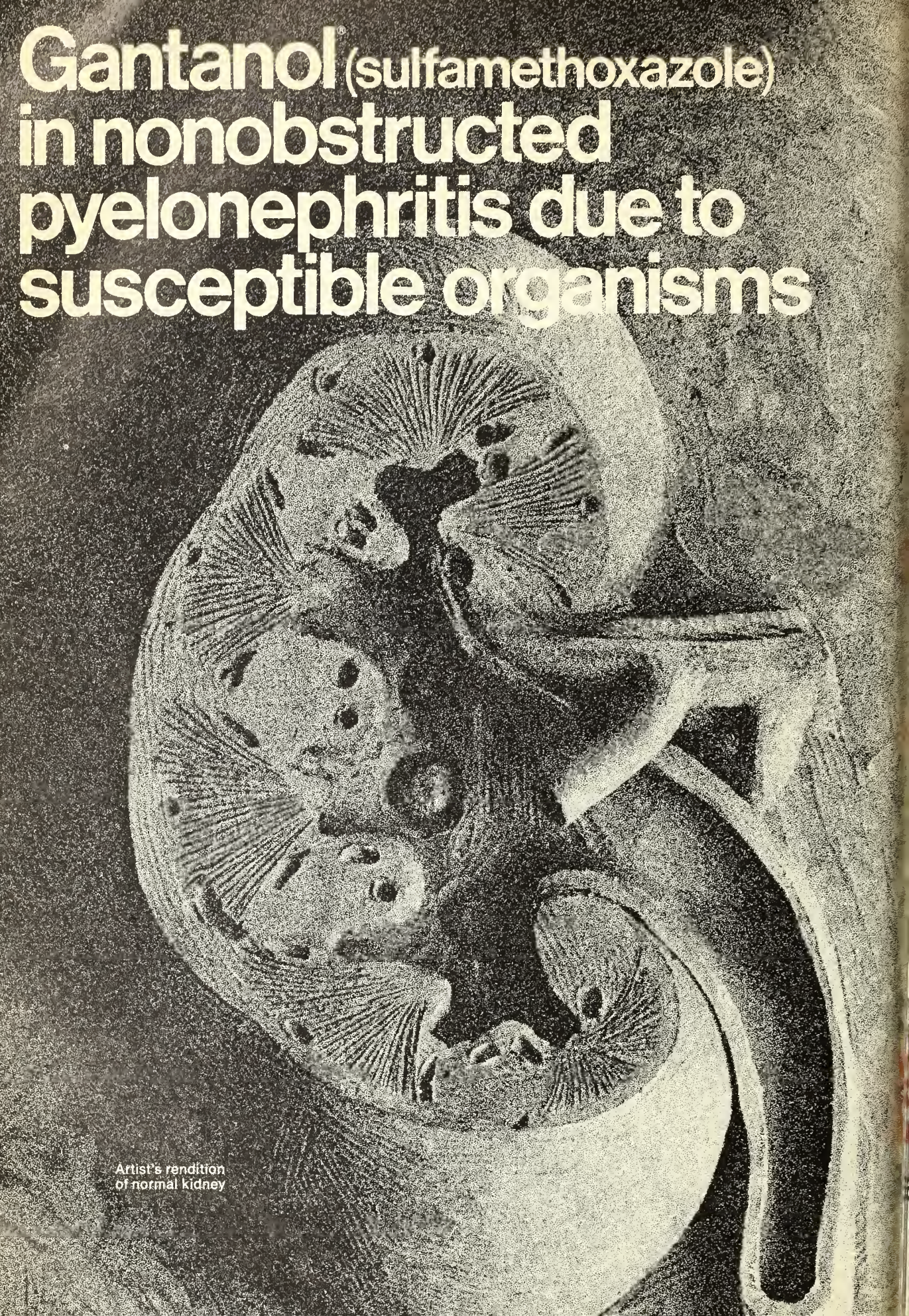
A solution of triphenyltetrazolium chloride, which turns a reddish purple in the presence of bacteria, was added to the plates after 6 hours. Renal slices from the untreated control animals consistently demonstrated heavy bacterial growth, as evidenced by dark staining.*

### Distribution throughout *Macaca speciosa* renal parenchyma

At the dosage of 12.5 mg/kg of body weight, a diffuse stain pattern indicated partial inhibition of bacterial growth. Renal slices from monkeys given the 50 and 100 mg/kg doses showed no staining, indicating complete bacterial inhibition and *suggesting* antibacterial distribution throughout the parenchyma.*

*Mobley, J. E.; Redman, J. F., and Robbins, R. P.: *Surg. Gynec. Obstet.*, *131*:1122, 1970.

# Gantanol® (sulfamethoxazole) in nonobstructed pyelonephritis due to susceptible organisms



Artist's rendition of normal kidney

## ablishes antibacterial levels in blood d urine in from 2 to 3 hours

om 2 to 3 hours of the initial 2-Gm adult dose, effective acterial levels of Gantanol® (sulfamethoxazole) are ved in both blood and urine. This prompt, early treatment cute nonobstructed pyelonephritis may help avert possible nic sequelae.

## ntrols primary bacterial offenders

acterial Gantanol (sulfamethoxazole) controls susceptible *oli*, the most common cause of urinary tract infections. It is effective against other susceptible gram-negative and gram-tive urinary pathogens such as *Klebsiella-Aerobacter, Staph. us* and *Proteus mirabilis.*

## o effective in nonobstructed chronic d recurrent urinary tract infections

lso common for the elderly and debilitated to develop nic nonobstructed urinary tract infections, primarily pyelo-itis and cystitis. Such cases often respond satisfactorily to py with Gantanol.

## .D./T.I.D. schedule gives nd-the-clock coverage

equent 1-Gm doses can provide up to 12 hours of antibacte-ctivity. The *b.i.d.* dosage is recommended for mild to erate infections; the *t.i.d.* for the more severe u.t.i. Gantanol des coverage around the clock—coverage that is especially rtant during the hours of sleep, when urinary retention s bacterial proliferation.

## r option: tablets or suspension

anol is available in two convenient dosage forms—tablets or asant-tasting suspension. It is generally well tolerated with ve freedom from complications. The usual precautions with namide therapy should be observed, including adequate fluid e, frequent c.b.c.'s and urinalyses with microscopic exam-n. The most common side effects reported are nausea, ting and diarrhea. (It should also be noted that the increasing ency of resistant organisms is a limitation of usefulness of acterial agents, including sulfonamides, especially onic or recurrent u.t.i.)

**onobstructed pyelonephritis to susceptible organisms**

# antanol®
# ulfamethoxazole)

## asic therapy

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Effective in acute, recurrent or chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella-Aerobacter, Staphylococcus aureus, Proteus mirabilis,* and, less frequently, *Proteus vulgaris*) and in the absence of obstructive uropathy or foreign bodies.

***Note:* Since *in vitro* sulfonamide sensitivity tests are not always reliable, carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response. Add aminobenzoic acid to culture media of patients receiving sulfonamides. The increasing frequency of resistant organisms is a limitation of usefulness of antibacterial agents, including sulfonamides, especially in chronic or recurrent urinary tract infections.**

Blood levels should be measured in patients receiving sulfonamides for serious infections, since there may be wide variations with identical doses; 20 mg/100 ml should be the maximum total sulfonamide level, as adverse reactions occur more frequently above this level.

**Contraindications:** Sulfonamide hypersensitivity; infants less than 2 months of age (except adjunctively with pyrimethamine in congenital toxoplasmosis); pregnancy at term and during nursing period.

**Warnings:** Safe use in pregnancy has not been established, and teratogenicity potential has not been thoroughly investigated. Sulfonamides will not eradicate or prevent sequelae to group A streptococcal infections, *i.e.,* rheumatic fever, glomerulonephritis. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported; early clinical signs such as sore throat, fever, pallor, purpura or jaundice may indicate serious blood disorders. Complete blood counts and urinalysis with careful microscopic examination are recommended frequently during sulfonamide therapy. Clinical data are insufficient on prolonged or recurrent therapy in chronic renal diseases of children under 6 years.

**Precautions:** Use with caution in patients with impaired renal or hepatic function, severe allergy, bronchial asthma and in glucose-6-phosphate dehydrogenase-deficient individuals. In the latter, dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias:* agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia; *allergic reactions:* erythema multiforme (Stevens-Johnson syndrome), skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis; *gastrointestinal reactions:* nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis; *C.N.S. reactions:* headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia; and *miscellaneous reactions:* drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide and thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

**Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age,** except adjunctively with pyrimethamine in congenital toxoplasmosis. Usual dosage is as follows: *Adults*—2 Gm (4 tabs or teasp.) initially, then 1 Gm (2 tabs or teasp.) *b.i.d.* or *t.i.d.* depending on severity of infection. *Children*—0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, followed by 0.25 Gm/20 lbs (½ tab or teasp.) *b.i.d.* Maximum dose for children should not exceed 75 mg/kg/24 hrs.

**Supplied:** Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.

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Nutley, N.J. 07110

# Pinworm therapy is often a family affair





**Contraindications:** History of hypersensitivity to thiabendazole.
**Warnings:** If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.
**Precautions:** Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
**Adverse Reactions:** Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia malodor of the urine, crystalluria, hematuria; appearance of liv Ascaris in the mouth and nose. Hypersensitivity reactions

# A New Dosage Form:

# Chewable Tablets 500 mg

# Mintezol®

## (THIABENDAZOLE | MSD)



) easy to take
veryone in the family
ll keep to the
egimen you prescribe

cle: fever, facial flush, chills, conjunctival injection, edema, anaphylaxis, skin rashes, erythema multiforme cding Stevens-Johnson syndrome), and lymphadenopathy.
**plied:** Chewable tablets, containing 500 mg thiabendazole, kes of 36, strip packaged, individually foil wrapped; sension, containing 500 mg thiabendazole per 5 cc, in tles of 120 cc.

*r ore detailed information, consult your MSD representa-ve r see the Direction Circular. Merck Sharp & Dohme, vision of Merck & Co., Inc., West Point, Pa. 19486*

MSD
MERCK SHARP & DOHME

addendum

## INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infestations, whether encountered singly or in combination. Dosages are weight related; therefore, a weight-dose chart is included in the Direction Circular for your convenience when writing a prescription. MINTEZOL should be given after meals if possible.

| INDICATIONS | DOSAGE (1st Day) | ADDITIONAL REGIMEN | COMMENTS |
|---|---|---|---|
| Pinworm disease | Two doses of 1 tablet/50 lb | Repeat 7 days later | This regimen is designed to reduce the risk of reinfection. However, if not practical, repeat the regimen the next day. |
| Threadworm,* large roundworm,* hookworm,* and whipworm* disease | Two doses of 1 tablet/50 lb | Repeat the next day | Alternatively, a single dose of 2 tablets/50 lb may be given. However, a higher incidence of side effects should be expected. |
| Creeping eruption | Two doses of 1 tablet/50 lb | Repeat the next day | If active lesions are still present 2 days after completing this regimen, a second course is recommended. |
| Symptoms of trichinosis* during the invasive phase of the disease | Two doses of 1 tablet/50 lb | Repeat for 2 to 4 successive days | The optimal dosage for the treatment of trichinosis has not been established. |

The recommended maximal daily dosage is 3 g (6 tablets).

*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

# ALCOHOLISM

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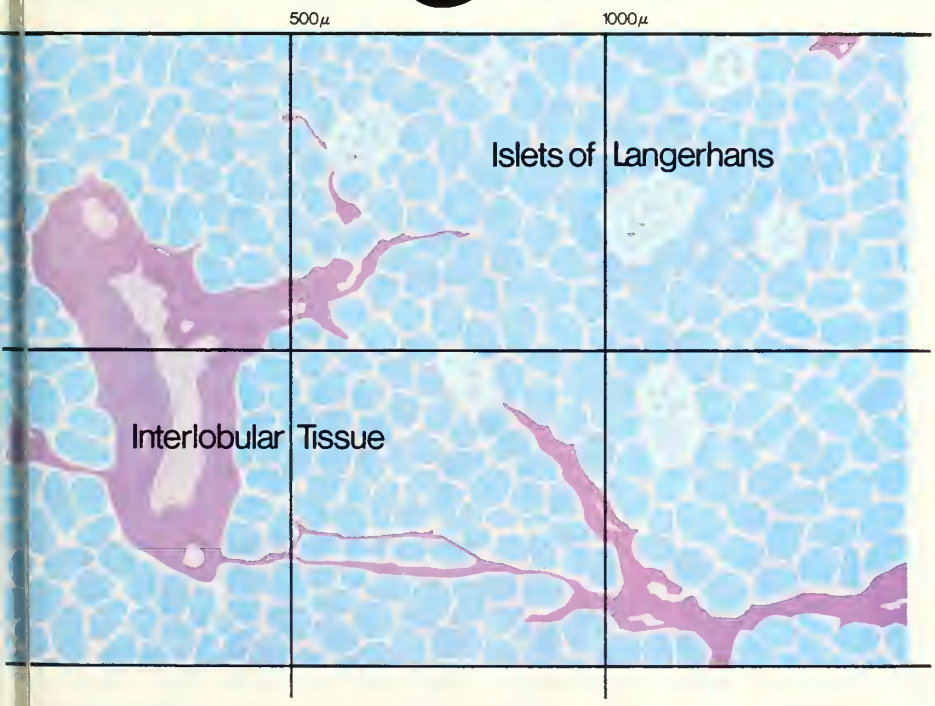
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ld also be made of electrolytes, pH, and the
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the appearance of any metabolic acidosis.
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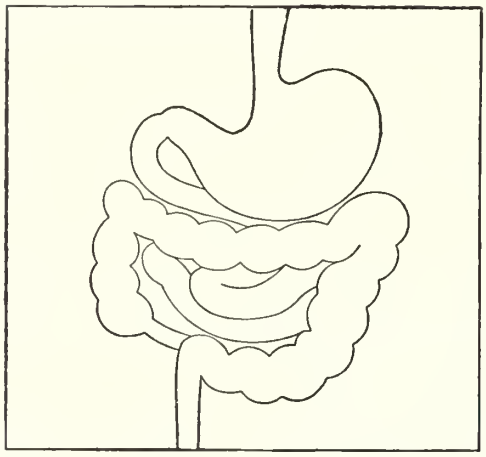
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**References: 1.** Olsen, J. R. Journal-Lancet 87: 287 (July) 1965. **2.** Giorlando, S.W. Ob/Gyn Dig. *13*: 32 (Sept.) 1971. **3.** Decker, J. Case Reports on File, Medical Department, Julius Schmid. **4.** Giorlando, S. W., Torres, J.F., and Muscillo, G. Am. J. Obst. & Gynec. 370 (Oct. 1) 1964. **5.** Lechevalier, H. Antibiotics Annual 1959-1960. New York, Antibiotica Inc., 1960. pp. 614-618. **6.** Friedel, J. Maryland M.J., *15*: 36 (Feb.) 1966.

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*–George Sarton, from "The History of Medicine Versus the History of Art"*

# Would it be useful in clinical practice to have government predetermine drugs of choice?

# Opinion

Results of a survey of physicians:

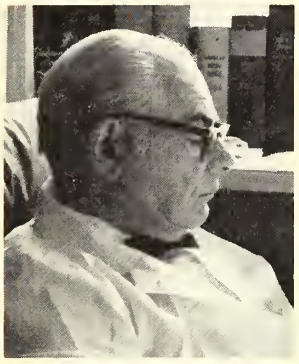
13.3%
Yes, it would be useful.

86.7%
No, it would not be useful.

# Would it be useful in clinical practice to have government predetermine drugs of choice?

## Doctor of Medicine

Walter Modell, M.D.,
Professor of Pharmacology,
Cornell University
Medical College,
Editor,
Clinical Pharmacology
& Therapeutics,
Drugs of Choice,
Rational Drug Therapy



The proposition that government should determine one or two "drugs of choice" within a given therapeutic class reflects the belief that a similarity in molecular structure insures a close similarity in pharmacologic effect. But this is by no means the rule. An obvious example would be in the field of diuretics, where a small change in chemical structure accounts for substantial differences in concomitant effects such as potassium excretion.

Any attempt to dictate the "drug of choice" would be complicated by the fact that some populations demonstrate a bimodal distribution in their reaction to drugs. If the data on drug response are mixed for the total population, one drug will appear to be as useful as the other. But if drug response is reported separately for different segments of the population, drug A will be found to be better for one group and drug B for the other.

It may, of course, be possible to determine drugs of choice in particular categories on a broad statistical basis. But there are always certain patients in whom a drug produces odd, unpredictable or idiosyncratic reactions. So, though a drug might statistically be the most useful one in a given situation, individual variations in response might make it the *incorrect* one.

The point I wish to make is that if two, three, four or more drugs in one class are of approximately equal merit, that in itself is justification for their availability. Exceptional cases do arise in which one drug would be useful to a certain segment of the population and another drug would be of no use at all. In the practice of medicine, the physician must be prepared to treat the routine as well as the unusual case.

Another objection to the determination of a drug of choice is that precise statements of *relative* efficacy are very difficult to make—much more difficult than statements of efficacy. For example, in testing drug efficacy, it is easy to determine the difference between a drug that is effective in treating a condition and one that is not at all effective. Thus, it is fairly easy to determine whether a drug is more effective than a placebo. But if you compare one drug that is effective with another drug that is also effective, and the relative differences between them are very slight, statements of relative efficacy may be very difficult to make with assurance.

I do not mean to imply that relative efficacy statements are not useful or can never be made. With some groups of drugs (e.g., analgesics), extensive study and precise methodology have yielded useful information on relative efficacy. But in most situations, such information can be acquired only through studies encompassing three to five years of use in many more patients than are used to compare drugs with a placebo for the introduction of a drug into commerce. It is really only after practitioners use a drug extensively that relative safety and efficacy in practice can really be determined.

The Bureau of Drugs has suggested the package insert as a possible means of communicating information on relative efficacy of drugs to the physician. I find this objectionable, since I do not believe the physician should have to rely on the package insert as a source for final scientific truth. There is also a practical objection: Since most physicians actually dispense drugs, they seldom see the package insert. In any event, I would maintain that the physician should know what drug he wants and why without depending on the government or the manufacturer to tell him.

Undoubtedly, physicians are swamped by excessive numbers of drugs in some therapeutic categories. And I am well aware that many drugs within such categories could be eliminated without any loss, or perhaps even some profit, to the practice of medicine. But, in my opinion, neither the FDA nor any other single group has the expertise and the wisdom necessary to determine the "drug of choice" in all areas of medical practice.

# Maker of Medicine

eth G. Kohlstaedt, M.D.,
Vice President,
Medical Research,
Lilly and Company



In my opinion, it is not
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or private regulatory
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it may be apparent that the established products should not be so easily dismissed.

Variation in patient response to drugs constitutes one of the major obstacles to the determination of "drugs of choice." We are just beginning to open the door on pharmacogenetics, but it is evident that genetic differences cause wide variations in the way drugs are absorbed, metabolized, etc. This fact alone is sufficient to make unrealistic the idea that there is one drug in each class to be used for every human being.

The problem of determining relative drug efficacy is an extremely complicated one. Comparison with other drugs of the same class should not be a prerequisite for marketing a new substance. In some therapeutic areas, it may be difficult to make accurate comparisons. For example, in the treatment of infections it is not possible to conduct crossover studies. Recovery may be influenced by factors which cannot be controlled or measured, i.e., natural host resistance and virulence of infective agents. A drug's acceptability must often be judged on the basis of its own performance, and this may be limited to experience in a relatively small patient population. If the introduction of a new drug must await the adequate establishment of relative efficacy, the duration of clinical trial and extent of studies would be greatly prolonged, particularly for rare or unusual conditions. The availability of a new drug would be delayed. Many patients might suffer needlessly and lives might be lost.

Relative efficacy can best be established by experience in a general patient population through regular channels of clinical practice. The physician considers the patient as a whole, which means the patient often has multiple problems and drugs must be selected with this in mind. Hence, a "drug of choice" in an uncomplicated case may not be the best drug for a patient with associated problems. Publication of well-controlled studies in medical journals may provide comparative evidence; discussions at medical meetings, presentations at postgraduate courses, and the new audiovisual technology may bring evidence to physicians on comparative therapy. In a free medical marketplace, a drug that does not measure up will fall into disuse. For example, broad clinical experience has established vitamin $B_{12}$ as the "drug of choice" for the treatment of primary pernicious anemia. No amount of advertising or promotional effort by the manufacturer could increase the use of liver extract for this anemia. However, a physician may wish to employ parenteral liver preparations for a special purpose.

In the field of surgery, peer review in the hospital has brought significant improvement in the use of new techniques and procedures. Something of this nature would be useful in the area of drug therapy. However, it should be developed by the medical profession itself and would necessitate, for its proper function, an improvement in the dissemination of reliable data on clinical pharmacology of drugs under consideration.

Ideally, information on the relative efficacy of drugs should be gathered and assessed by the physicians who actually administer the specific agents to a specific patient population. To do this, they will need even more information on the drugs they use — information that the pharmaceutical manufacturers must begin to provide if government regulation of *"drugs of choice"* is to be avoided.

## Opinion & Dialogue

**What is your opinion, doctor?**
**Send us your comments on the above issue.**

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VOLUME 68 JUNE, 1972 NUMBER 6

# DRUG ADDICTION IN THE ADOLESCENT AND YOUNG ADULT

KIM A. KEELEY, M.D., M.S.H.*

Currently it is fashionable to talk about a drug abuse epidemic. Whatever the accuracy of this remark, it points up the fact that drug use and abuse is all around us.

Most physicians can cite from their practices examples of difficult patients whose lethargy and occasional despond would remit, so the patient urges, if only they could have a stimulant, tranquilizer, or mild analgesic. True enough, they are not like narcotic addicts who must keep on increasing their doses in order to remain free of withdrawal symptoms. But, their usage is continuous and perhaps habitual in a psychological, if not a pharmacological sense. If it is not prescription drugs, then it may be the continued use of an over-the-counter preparation which helps them through the day.

Alcohol certainly is the most popular of the over-the-counter substances. Probably no one in the practice of medicine has not encountered a patient who has difficulty handling their alcohol intake. Adolescents and young adults must learn how to cope with alcohol as well as the other current drugs of use and abuse.

Although the number of alcoholics is higher than any other category of substance abuse patients, it is still small compared to the vast majority who use alcohol without getting into any significant trouble at all.

Exactly the same type of psychology now applies to drug use and addiction among adolescents and young adults. Substances which can be abused are freely available to them. The fact that these drugs are not ordinarily or easily obtained in doctor's offices, pharmacies, or liquor stores is little deterrent to the widespread use of drugs among young people.

**Case Report.** A physician and his wife attended a college sports event in a medium-sized metropolitan area. During intermission he and his wife walked around the arena among the concession stands. It was crowded, and people milled about, but they still noticed two little boys no older than twelve who ran up to a college student and started talking to him. The student seemed to pay no attention to the boys but looked intently into the crowd. In a moment or two, after the boys handed him something, the student gave them what looked like an empty pack of cigarettes. The young boys seemed very pleased about getting this crumpled pack of cigarettes until they looked inside. "Only two?" they said, "Is that all we get?" The student nodded, and then all three of them disappeared into the crowd. The student wore the jacket of a nearby college whose team was not involved in the sports event at the arena. Assuming that the young boys would not have been that excited about getting two ordinary tobacco cigarettes, the physician and his wife decided that a more exotic commodity, perhaps marijuana, had been transferred.

Whether or not the young boys purchased marijuana is less important than the probability that drug use among the young, even the very young, is supported by the kind of extensive, complex, and furtive arrangements described in the case report. Effective and

*Assistant Professor of Psychiatry, Medical University of South Carolina, Charleston, S. C.

discreet communication systems have to be operating to support the informal distribution of drugs which takes place in our society. What the physician and his wife saw in the case report was just the top of the iceberg.

When so many people, young and old, are involved in the use and abuse of substances, and when such a variety of substances can be used and abused, it is not very helpful to talk about a single cause and effect of these events. The standard medical model, which incriminates one agent as the cause of an illness and attributes a cure to the medication or therapy which can remove this cause, is not useful in understanding drug addiction. Instead, the physician, his patient, and his community must perceive that a system of interactions contributes to drug addiction.

A systems model is suggested because drug abuse, like tuberculosis, has many causes and many effects. This is true even though a single agent—the tuberculosis bacterium or the abused substance—must be present to say the condition exists.

Figure I depicts a systems analysis view of the drug addict's world.[1] The size of the arrows indicate the relative ease with which an individual may move from one sector of drug use patterns into another. It is apparent that there is a general movement within our society towards heavier drug use, accompanied by a more restricted pathway towards minimal drug use.

Intervention strategies are designed to influence the size of the arrows, so to speak. The top arrows should decrease in size if prevention programs are successful. Treatment and rehabilitation methods would enlarge the lower arrows, facilitating movement towards the minimal drug use sector of society.

Figure I also indicates that a recycling effect occurs once a person enters the world of the addict. Most therapeutic and rehabilitative techniques currently existing have little impact on the social and cultural motives which keep a person involved in the addict world. It is apparent that drug addiction in our society is much more a system of behaviors than it is a simple cause and effect situation.

Besides an awareness of the social and cultural systems that tend to move people towards moderate and heavy drug use, we must also be aware of the crucial psychological variables which impinge on the drug user. Erik Erickson, in his classic book, *Childhood and Society*,[2] has described eight stages of psychological development covering the life span of man from birth to death. For the adolescent he suggests the primary psychological goal is the resolution of the identity crisis. Each of us in our teenage years and early twenties experiences conscious and unconscious urges to discover our own personal identity, to get a better understanding of how we will fit into the adult world. In Erickson's terms, failure to establish identity may be described as role diffusion, where a person is basically unsure of how he fits into the overall scheme of things. This applies regardless of the social class of a person.

For the young adult in his twenties, Erickson describes an unconscious conflict between the need for intimacy with others versus the need to be alone. The young adult spends much of his psychic energy trying to determine how comfortable he can be while involved with others. The consequences of failure in this struggle are measured by the degree a person is isolated from his peers and from society.

For the adult between thirty and sixty, Erickson sees the main psychological task as developing generativity as opposed to stagnation. The adult is primarily concerned, from a psychological point of view, with what he can create and contribute. Otherwise, his view of himself may take on the character-

FIGURE I.

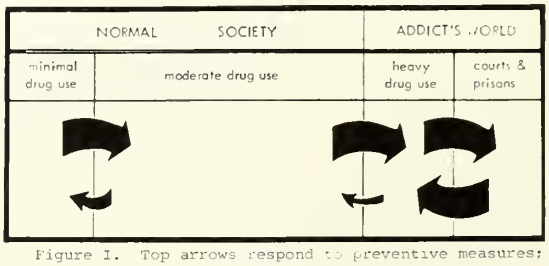



Figure I. Top arrows respond to preventive measures; lower arrows to treatment and rehabilitative measures.

istics of stagnation where he becomes aware either dimly or acutely that some or many of his abilities and opportunities have been left unused or poorly developed.

I mention these psychological milestones not as criteria which every normal person must attain, but merely as guideposts which can help us anticipate the types of underlying problems which our adolescent and young adult patients may be experiencing as they take part in drug abuse subcultures.

From a psychiatric viewpoint, I believe these milestones of maturation can give us an insight into the youth's perspective towards drug use. As adults, for example, we may expect that drug abuse would have drastic effects on the young person's ability to create and contribute to his own society. However, it's quite likely that the adolescent cares less about this part of his life and more about establishing his own identity and finding himself in a society that is already very complex.

For the young adult, the demands to create and contribute are also relatively minimal. Instead, these are the years when a person learns how to become involved with others, especially the opposite sex. This is true whether they are married or not. Many young adults, those involved with drug addiction and those who are not, have tremendous difficulty coping with the intimacy which married life forces upon them. Naturally, this is true regardless of socioeconomic circumstances.

It is very easy to lose sight of these conceptual foundations when one is faced with acute and emergency problems. Nevertheless, it is these very conceptual points which legitimize the physician's role in drug addiction. You don't have to be a physician to appreciate these concepts, but it is often the physician who appreciates them first and in depth. The community as well as the patient often look to him for leadership in the treatment of substance abuse. The fact that drug abuse is a public health problem, and the fact that drug addicts are inevitably caught up in the universal processes of psychological maturation are two basic realities which a doctor can reiterate as he leads his community towards the establishment of a program for treating substance abuse.

The physician and his colleagues in program planning must take special care to make these points with community leaders, especially the members of their local county council and legislative delegation, who are ultimately responsible for providing funds for the community's health programs. These men and other leaders need to know not just what are the strategies of prevention, treatment, and rehabilitation, but also the basic facts about public health and individual psychology which make these strategies relevant in the first place.

It is not generally realized by the public that for all substance abusers, not just narcotics addicts, it is frequently impossible for physicians alone to interrupt the fabric of the drug subculture for individual patients. Besides the physician, a patient's family, friends, and community organizations almost invariably play crucial roles in the development and resolution of substance abuse problems. For example, Alcoholics Anonymous has been immensely successful in the treatment of alcoholism because it is able to provide the 24 hour coverage and intervention that an alcoholic needs in order to break out of the vicious cycle of events that keeps him pinned down. The individual physician cannot accomplish this for more than a few patients. Perhaps this fact alone, which is really beyond the control of the physician, is responsible more than any other, for the relative lack of attention that medicine as a profession has provided the alcoholic.

It is important that the same phenomenon not continue in the field of drug addiction or alcoholism. At the very least, this neglect undermines public confidence in the medical profession.

Physicians would be well advised to give their support in the development of comprehensive substance abuse treatment programs for their communities. Frequent reiteration of the systems analysis model of drug abuse, and constant reminders about the realities of psychological maturation are the main conceptual tools of physicians who aim to help

their community reduce drug abuse among the adolescent and young adult.

**Summary.** Understanding drug addiction is difficult because the physician and layman alike are so used to thinking in terms of cause and effect. Like tuberculosis, substance abuse has many causes and countless effects, even though a single agent such as the tuberculosis bacterium or the abused drug must be present for the condition to exist.

A public health viewpoint and a comprehension of psychological development are essential aspects of understanding drug addiction and planning strategies of prevention, treatment, and rehabilitation.

Public health views the community as a dynamic system where people may move into and out of the addiction and drug abuse world. Psychologically, these people are at various stages of development depending on their ages. According to Erik Erikson, adolescents typically are engaged in a struggle to establish their identities. Young adults experiment with each other to determine how to be comfortable while becoming involved with others. For those who participate in addict subcultures, drug use becomes intricately involved in these gradual processes of psychological maturation. This is a reality which cannot be successfully ignored when planning intervention and prevention strategies.

## Acknowledgements

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Due to the author's illness, the presentation could not be given in February, 1972, when the Course was held at the Fort Sumter Hotel, Charleston, S. C.

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# REPORT ON A THREE-COUNTY CERVICAL CANCER SCREENING PROJECT*

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### 1. Uterine Cancer Rates and Trends

From a review of literature it appears that any study of the epidemiology of uterine cancer is complicated by the fact that the two parts to the uterus—cervix and corpus, display distinctly different patterns of incidence. Unfortunately, a high proportion of morbidity records and death certificates fail to specify whether the cervix or the corpus is the primary site of the tumor. Among United States females, the reported incidence (morbidity) for both sites has declined somewhat during recent years.[1,2]

Connecticut data indicate that decline in reported incidence has been limited to cervical cancer only, but that mortality has decreased for both the cervix and corpus.[3]

Uterine cancer mortality trends in most other countries have paralleled those in the U. S. Figure 1 shows the 1958-59 mortality rates for all uterine cancer in 24 countries. Note the impressively high rate for the U. S. non-white. The wide range in rates is thought to be due primarily to variations in cervical cancer, with more stable rates prevailing for corpus cancer.

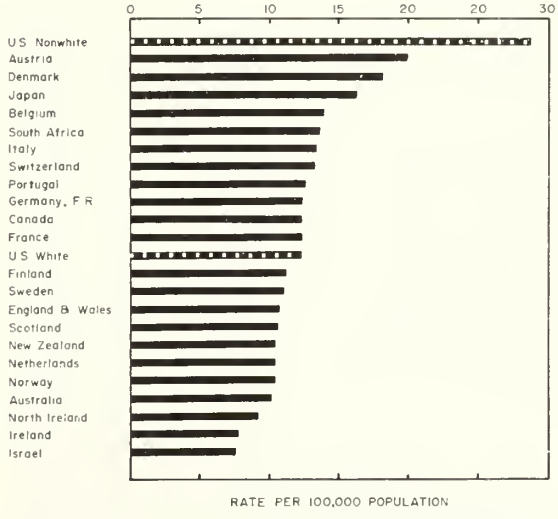



**Figure 1. Age-adjusted Mortality Rates* for Malignant Neoplasms of the Uterus in Various Countries**

***Rate Per 100,000 Female Population**

*The South Carolina Regional Medical Program completed its funding support of a three year Cervical Cancer Screening Project covering Florence, Darlington and Marlboro counties on July 30, 1971. This project, sponsored by the State Board of Health, was operated in cooperation with the local Health Departments of the three project counties with the approval of their Medical Societies. The objective was to demonstrate the need for routine Papanicolaou screening and for immediate treatment on positive diagnoses. This report studies the impact of the project in the area it covered.

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**Table 1. Uterine Cancer World-Wide Distribution—Age-adjusted Death Rates.***

| *Countries* | *Uterus* (*rate*) | (*rank*) |
|---|---|---|
| United States | 11.83 | (20) |
| Australia | 8.40 | (31) |
| Austria | 17.75 | (5) |
| Belgium | 11.95 | (19) |
| Bulgaria | 6.97 | (35) |
| Canada | 10.69 | (22) |
| Chile | 19.93 | (3) |
| China-Taiwan | 15.56 | (9) |
| Czechoslovakia | 13.10 | (12) |
| Denmark | 17.61 | (6) |
| El Salvador | 7.24 | (34) |
| England, Wales | 10.20 | (26) |
| Finland | 10.40 | (24) |
| France | 11.30 | (21) |
| Germany | 12.69 | (14) |
| Greece | 6.60 | (36) |
| Hong Kong | 12.06 | (18) |
| Hungary | 19.12 | (4) |
| Ireland | 7.75 | (33) |
| Israel | 6.18 | (37) |
| Italy | 13.00 | (13) |
| Japan | 13.47 | (11) |
| Mexico | 20.66 | (2) |
| Netherlands | 10.13 | (27) |
| New Zealand | 10.29 | (25) |
| Nicaragua | 2.15 | (40) |
| Northern Ireland | 7.96 | (32) |
| Norway | 9.13 | (30) |
| Panama | 15.61 | (8) |
| Philippines | 4.67 | (38) |
| Poland | 15.92 | (7) |
| Portugal | 12.37 | (17) |
| Puerto Rico | 15.21 | (10) |
| Scotland | 10.66 | (23) |
| South Africa | 12.51 | (15) |
| Sweden | 9.95 | (28) |
| Switzerland | 12.46 | (16) |
| Thailand | 2.26 | (39) |
| Venezuela | 27.42 | (1) |
| Yugoslavia | 9.39 | (29) |

*Rate per 100,000 female population.

A more recent study of the distribution of uterine cancer provides age-adjusted death rates for 1964-1965 in 40 countries (Table 1). Rates vary widely and range from 2.15 in Nicaragua to 27.42 in Venezula. When ranked according to rate, the U. S. lies mid-point with a rank of 20. From 1966-1970, 603 female residents of South Carolina lost their lives due to cancer of the cervix, as shown in Table 2. This gives an annual average rate of 13.0 deaths per 100,000 females 15 years of age and over for the state. By county, the average annual death rate of cancer of the cervix varied from 5.7 in Pickens County to 29.2 in Jasper County. Twelve counties experienced a rate of less than 10.0, while eight counties experienced a rate greater than 20.0. The variation noted by county may be due, in part, to the small number of deaths.

The occurrence of malignant tumors of the cervix is apparently closely related to sexual practices and reproductive history. For instance, cervical cancer is very rare in nuns and is more common among married than single women. Various studies have related invasive cervical cancer to such factors as early marriage, early pregnancy, marital instability, venereal disease, and prostitution.[5] The correlation of some of these factors with low socioeconomic status may explain the association between the latter and elevated mortality from cervical cancer as shown in Table 3. It should be noted that cervical cancer mortality is *not* above average among most groups of immigrant women in the U.S., even though a high proportion of such women are classified in the lower socioeconomic groups. Cervical cancer is, however, noteworthy in that it has incidence and mortality rates which directly follow socioeconomic classification where corpus cancer provides rates which do not establish trends based upon socioeconomic classifications (Table 3).

Another impressive factor of distribution of cervical cancer is the reported low risk among Jewish women.[7] Whether this is related to genetic factors or to the circumcision of Jewish men cannot be answered definitely from data now on hand.

### 2. Description of Project

The three county Cervical Cancer Screening Project was designed to demonstrate that a concentrated education program and readily available free Papanicolaou (Pap) tests would produce an effective response from the target population, i.e. women in the lower socioeconomic groups, ages 20 - 50 years.

The project functioned in a two-fold manner utilizing both consultative and active services. The *consultative* services were rendered by a staff composed of ten physi-

**Table 2. Number and Average Annual Number of Cancer of Cervix Deaths for Five Year Period, Female Population 15 Years of Age and Over and Average Annual Rate* By County 1966-1970, South Carolina.**

| *Counties* | *Deaths* 5 yr. Period | *Deaths* Av. An. Num. | *Female Pop. 15 & Over*** | *Average Annual Rate** |
|---|---|---|---|---|
| Abbeville | 4 | .8 | 8,163 | 9.8 |
| Aiken | 11 | 2.2 | 32,714 | 6.7 |
| Allendale | 3 | .6 | 3,639 | 16.5 |
| Anderson | 26 | 5.2 | 40,110 | 13.0 |
| Bamberg | 7 | 1.4 | 5,764 | 24.3 |
| Barnwell | 4 | .8 | 6,192 | 12.9 |
| Beaufort | 6 | 1.2 | 14,365 | 8.4 |
| Berkeley | 10 | 2.0 | 17,833 | 11.2 |
| Calhoun | 3 | .6 | 3,859 | 15.5 |
| Charleston | 48 | 9.6 | 83,117 | 11.5 |
| Cherokee | 16 | 3.2 | 13,927 | 23.0 |
| Chester | 14 | 2.8 | 11,134 | 25.1 |
| Chesterfield | 6 | 1.2 | 12,117 | 9.9 |
| Clarendon | 4 | .8 | 8,786 | 9.1 |
| Colleton | 10 | 2.0 | 9,840 | 20.3 |
| Darlington | 12 | 2.4 | 19,592 | 12.2 |
| Dillon | 13 | 2.6 | 9,983 | 26.0 |
| Dorchester | 5 | 1.0 | 11,045 | 9.1 |
| Edgefield | 6 | 1.2 | 5,546 | 21.6 |
| Fairfield | 5 | 1.0 | 6,925 | 14.4 |
| Florence | 35 | 7.0 | 32,602 | 21.5 |
| Georgetown | 6 | 1.2 | 11,508 | 10.4 |
| Greenville | 42 | 8.4 | 91,360 | 9.2 |
| Greenwood | 11 | 2.2 | 19,041 | 11.6 |
| Hampton | 4 | .8 | 5,706 | 14.0 |
| Horry | 15 | 3.0 | 24,895 | 12.1 |
| Jasper | 6 | 1.2 | 4,106 | 29.2 |
| Kershaw | 9 | 1.8 | 12,579 | 14.3 |
| Lancaster | 7 | 1.4 | 15,848 | 8.8 |
| Laurens | 11 | 2.2 | 18,747 | 11.7 |
| Lee | 6 | 1.2 | 6,167 | 19.5 |
| Lexington | 14 | 2.8 | 31,634 | 8.9 |
| Marion | 7 | 1.4 | 11,270 | 12.4 |
| Marlboro | 8 | 1.6 | 9,668 | 16.5 |
| McCormick | 1 | .2 | 2,791 | 7.2 |
| Newberry | 8 | 1.6 | 11,302 | 14.2 |
| Oconee | 12 | 2.4 | 15,100 | 15.9 |
| Orangeburg | 23 | 4.6 | 25,276 | 18.2 |
| Pickens | 6 | 1.2 | 21,047 | 5.7 |
| Richland | 47 | 9.4 | 81,158 | 11.6 |
| Saluda | 3 | .6 | 5,196 | 11.5 |
| Spartanburg | 50 | 10.0 | 66,173 | 15.1 |
| Sumter | 20 | 4.0 | 26,569 | 15.1 |
| Union | 9 | 1.8 | 11,151 | 16.1 |
| Williamsburg | 5 | 1.0 | 11,780 | 8.5 |
| York | 25 | 5.0 | 33,045 | 15.1 |
| STATE TOTAL | 603 | 120.6 | 930,370 | 13.0 |

*Rate per 100,000 females 15 years of age & over.
**1970 Census.

**Table 3. Standardized Incidence and Mortality Ratios for Uterine Cancer by Socioeconomic Class, United States, Denmark, England and Wales.**

| *SITE* | *CLASS* | *U. S. White 10 cities 1947 (incidence)* | *Denmark 1943-47 (incidence)* | *England & Wales 20-64 yrs. of age, 1949-53, mortality* | |
|---|---|---|---|---|---|
| | | | | *Married* | *Single* |
| Cervix Uteri | I (highest) | 74 | 50 | 64 | 40 |
| | II | 85 | 90 | 75 | 61 |
| | III | 90 | 79 | 98 | 87 |
| | IV | 113 | 100 | 105 | 121 |
| | V (lowest) | 156 | 131 | 134 | 115 |
| Corpus Uteri | I (highest) | 105 | 87 | 103 | 180 |
| | II | 101 | 90 | 93 | 93 |
| | III | 100 | 109 | 106 | 125 |
| | IV | 87 | 108 | 92 | 59 |
| | V (lowest) | 110 | 101 | 99 | 61 |

cians: five from the State Aid Cancer Clinic located in the city of Florence, four physicians representing the Medical Societies from the three project counties, and 1 pathologist with wide experience in cervical cytology.

The *active* services were rendered by a staff composed of a part-time medical director (physician), nurse, health educator, secretary, and clerk-typist.

Regular Pap test clinics were established in Bennettsville (Marlboro County), Darlington and Hartsville (Darlington County), and Florence (Florence County). The clinics in Marlboro and Darlington counties were conducted twice monthly and the Florence Clinic was held weekly. Additional "special" clinics were set up to reach rural areas on an irregular basis. Area industries were very cooperative and numerous clinics were held in the plants with employees given time off to participate. Several smaller industries granted time off and provided transportation to allow employees to attend a regularly scheduled Pap test clinic.

Stimulation of interest in the wider use of the Pap test by private physicians was encouraged through personal contacts by the Medical Director and other staff at medical meetings, and through correspondence and conferences. A large percentage of area practitioners actively participated through Pap testings in their private offices of medically indigent patients. Project monies were used to pay for cytology laboratory examinations of these smears.

To further stimulate interest in cervical cancer screening, project personnel worked closely with Health Departments, Welfare Departments, OEO Agencies, Extension Services, Adult Education classes and other adult school related groups in the three counties involved. In addition local Cancer Society units and Women's Civic Clubs were actively involved in promoting the project. Meetings were attended, talks given and letters written to keep these organizations informed of the program.

### 3. Mortality Data in Project Area

Mortality data supplied by the South Carolina State Board of Health was reviewed to determine information relating to cervical cancer (ICDA 180, 182 and 182.9) from 1962 through the first quarter of 1971. During this nine year period there were 136 deaths at-

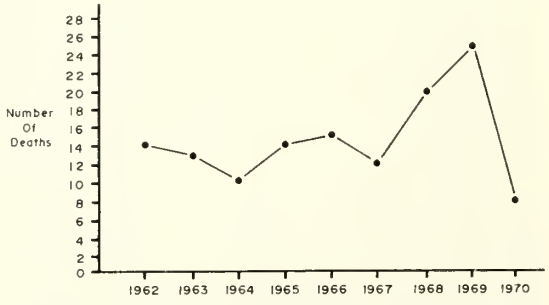



**Figure 2. Number of Deaths from Cervical and Uterine Cancer in Project Area 1962-1970**

tributed to cervical and uterine cancer in the project area (Florence, Darlington, and Marlboro counties). The number of deaths per year peaked in 1969 when 25 women in the three county area died from cervical or uterine cancer. In 1970 there was a dramatic decline when only eight (8) deaths occurred, the smallest number in the nine year period (Figure 2). It is difficult to explain this sudden decline but it should be noted that it occurred during the second year of project activity, by which time there had been a number of cases identified and referred for treatment as a result of project efforts.

1970 census data give the overall female population composition of this three county area as 61 per cent white and 39 per cent non-white. A review of mortality data for the nine year period disclosed that 49 white and 87 non-white females in this three county area died from cervical or uterine cancer. Applying the white, non-white population ratio to mortality for the nine year period it appears that the non-white female is at greater risk (approx. 3 times) of cervical and uterine cancer than the white female. The relative risks are 13.7 per 100 M for white females and 43.7 per 100 M for non-white females age 15 and over.

In looking at cervical cancer only, as shown in Table 4, residents of the project area experienced an average annual rate of 17.8

**Table 4. Cancer of Cervix Deaths, Female Population 15 Years of Age and Over and Rate by Race by County, Project Area, Average Annual Data, 1966-1970.**

| *Race* | *Darling.* | *Florence* | *Marlboro* | *Total* |
|---|---|---|---|---|
| Average Annual Number Deaths | 2.4 | 7.0 | 1.6 | 11.0 |
| White | .2 | 2.6 | .2 | 3.0 |
| Non-White | 2.2 | 4.4 | 1.4 | 8.0 |
| Females 15 Yrs. & Over* | 19,592 | 32,602 | 9,668 | 61,862 |
| White & All Other | 12,721 | 21,359 | 5,736 | 39,816 |
| Negro | 6,871 | 11,243 | 3,932 | 22,046 |
| Rate per 100,000 females 15 Yrs. & Over | 12.2 | 21.5 | 16.5 | 17.8 |
| White | 1.6 | 12.2 | 3.5 | 7.5 |
| Non-White | 32.0 | 39.1 | 35.6 | 36.3 |

*1970 Census

Table 5. Cancer of Cervix Deaths and Rate By Age Category, Project Area, Average Annual Data, 1966 - 1970.

| *Age Category* | *Av. Annual Deaths* | *Female Pop.°* | *Rate Per 100,000 Fem.* |
|---|---|---|---|
| 25 - 34 | .8 | 10,729 | 7.5 |
| 35 - 44 | 3.4 | 9,895 | 34.4 |
| 45 - 54 | 1.8 | 9,572 | 18.8 |
| 55 - 64 | 1.2 | 7,653 | 15.7 |
| 65 - 74 | 3.4 | 4,887 | 69.6 |
| 75 & Over | .4 | 2,784 | 14.4 |

°1970 Census

deaths attributed to cancer of the cervix per 100,000 females 15 years of age and over. On an average annual basis, cancer of the cervix took the lives of 11 females — 3 white and 8 non-white during the 1966 - 1970 period. The non-white females experienced a risk approximately five times that of the white females during this time period — namely, a rate of 36.3 for non-whites compared to 7.5 for whites.

In each of the three counties the non-white rate was higher. The rate for the white population had the widest variation — from 1.6 in Darlington County to 12.2 in Florence County. The non-white rates varied less — from 32.0 to 39.1. Some of the variation in the rate could be attributed to the small number of deaths.

By age, the average annual death rate attributed to cancer of the cervix varied from 7.5 per 100,000 females in the 25 - 34 age category to 69.6 in the 65 - 74 age category, as shown in Table 5. No deaths occurred among women under 25 years of age during this period. With the exception of the 65 - 74 age category the rate decreases somewhat after age 45. Again, numbers tend to be small which may, in part, influence fluctuations between rates.

**4. Analysis of Project Activity**

Papanicolaou tests are the means used for screening for cervical cancer and the State of South Carolina has been ranked by the U. S. Dept. of Health, Education and Welfare, Public Health Service, in the lowest quartile of states in per cent of total females cytologically examined. In 1961 the U. S. had an

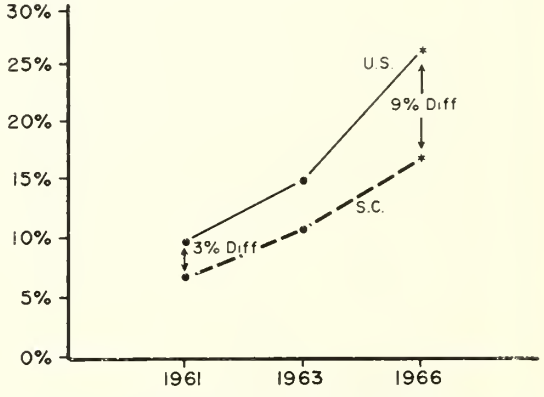



**Figure 3. Percent of Total Females Age 20 and Over* Estimated to be Cytologically Examined in 1961, 1963 and 1966.**

*Based on Population Estimates. Series P.25. 1966, Bureau of the Census. (Based on Survey conducted under the auspices of the College of American Pathologists in cooperation with the U. S. Public Health Service, 1966)

**Table 6. Number of Pap Tests Performed by Cytology Laboratories Serving Project Area and Percent Increase Over Previous Year, 1966-1970.**

| *YEAR* | *# of TESTS* | *% Increase Over Previous Year* |
|---|---|---|
| 1966 | 6,425 | --- |
| 1967 | 7,145 | 11.2 |
| 1968 | 8,379 | 17.3 |
| 1969 | 12,661 | 51.1 |
| 1970 | 17,829 | 40.8 |

estimated 10 per cent of females cytologically examined while South Carolina examined 7 per cent for a difference of 3 per cent. In 1966 the U. S. average had jumped to 26 per cent while South Carolina was estimated to have cytologically examined only 17 per cent, a difference of 9 per cent indicating an increasing deficit trend (Figure 3).

### Number of Pap Tests in Project Area

In the three county project area a survey of the number of Pap tests performed by cytology laboratories (Table 6) shows that in 1966 slightly more than 6,000 tests were conducted whereas in 1970 this had risen to nearly 18,000.

During the course of the project over 7,000 women were examined by project personnel alone and many more were examined by private physicians with laboratory costs paid from project funds. As a result, more than 60 cases of cervical cancer were identified and referred for treatment.

### Population Screened in Project Area

During the project period, 1968 - 1971, selected data from 6,888 women screened by project personnel were reviewed. Of these, 6,676 were residents of Darlington, Florence and Marlboro counties, as shown in Table 7. There were 3,839 whites screened compared to 2,837 non-whites. Of the female population 15 years of age and over, 10.8 percent were screened for cancer of the cervix. A slightly larger percentage of non-whites (12.9 percent) were screened than whites (9.6 percent). The greater participation of non-white females was a desirable factor in view of their substantially greater risk of cervical cancer.

**Table 7. Female Population 15 Years of Age and Over, Number Screened for Cancer of Cervix and Percent Screened by Race by County, Project Area, 1968-1971.**

| *County* | *Female Population** | | | *Number Screened* | | | *Percent Screened* | | |
|---|---|---|---|---|---|---|---|---|---|
| | *Total* | *White & Other* | *Negro* | *Total* | *White* | *N-White* | *Total* | *White* | *N-White* |
| Darlington | 19,592 | 12,721 | 6,871 | 2,189 | 1,294 | 895 | 11.2 | 10.2 | 13.0 |
| Florence | 32,602 | 21,359 | 11,243 | 3,611 | 1,987 | 1,624 | 11.1 | 9.3 | 14.4 |
| Marlboro | 9,668 | 5,736 | 3,932 | 876 | 558 | 318 | 9.1 | 9.7 | 8.1 |
| Three Cty. Area | 61,862 | 39,816 | 22,046 | 6,676 | 3,839 | 2,837 | 10.8 | 9.6 | 12.9 |

*1970 Census

**Table 8. Female Population, Number Screened and Percent Screened by Age Category by Race, Project Area, 1968 - 1971.**

| Age Category | Female Population° | | | Number Screened | | | Percent Screened | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | White & Other | Negro | Total | White | N-White | Total | White | N-White |
| 15 - 19 | 9,194 | 4,948 | 4,246 | 184 | 51 | 133 | 2.0 | 1.0 | 3.1 |
| 20 - 24 | 7,148 | 4,536 | 2,612 | 906 | 314 | 592 | 12.7 | 6.9 | 22.7 |
| 25 - 34 | 10,729 | 7,398 | 3,331 | 1,525 | 859 | 666 | 14.2 | 11.6 | 20.0 |
| 35 - 44 | 9,895 | 6,452 | 3,443 | 1,323 | 810 | 513 | 13.4 | 12.6 | 14.9 |
| 45 - 54 | 9,572 | 6,364 | 3,208 | 1,267 | 811 | 456 | 13.2 | 12.7 | 14.2 |
| 55 - 64 | 7,653 | 5,051 | 2,602 | 974 | 652 | 322 | 12.7 | 12.9 | 12.4 |
| 65 & Over | 7,671 | 5,067 | 2,604 | 497 | 342 | 155 | 6.5 | 6.7 | 6.0 |
| TOTAL | 61,862 | 39,816 | 22,046 | 6,676 | 3,839 | 2,837 | 10.8 | 9.6 | 12.9 |

°1970 Census

Number and percent of the female population screened for cancer of the cervix by age and race is shown in Table 8. For the project area the percentage of females screened varied from 12.7 to 14.2 within the 20 - 64 age categories. Of the female population in the project area the larger percentage of white females screened were older — in the 25 - 64 age categories; while the larger percentage of non-white females screened were younger — in the 20 - 34 age categories. Variation in percent screened, by county, can be seen in Table 9.

### Urban — Rural Participation

The three county project area is composed of a total population that is 33.6% urban and 66.4% rural. However, in each county a larger percentage of urban females were screened than were rural females, as is shown in Table 10. This higher urban response is

**Table 9. Percent of Female Population Screened for Cancer of Cervix by Age Category by Race by County, Project Area, 1968 - 1971.**

| Age Category | Darlington Percent Screened | | | Florence Percent Screened | | | Marlboro Percent Screened | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | White | N-White | Total | White | N-White | Total | White | N-White |
| 15 - 19 | 1.9 | 1.0 | 2.9 | 2.4 | 1.1 | 3.9 | 1.0 | .7 | 1.3 |
| 20 - 24 | 10.0 | 6.2 | 17.0 | 16.1 | 7.3 | 32.1 | 6.5 | 7.1 | 5.7 |
| 25 - 34 | 14.5 | 12.0 | 20.3 | 13.9 | 10.5 | 21.9 | 14.8 | 15.6 | 13.3 |
| 35 - 44 | 14.3 | 13.6 | 15.6 | 13.1 | 11.9 | 15.5 | 12.4 | 12.8 | 11.7 |
| 45 - 54 | 15.2 | 13.8 | 17.9 | 12.4 | 12.1 | 13.1 | 12.1 | 12.8 | 10.9 |
| 55 - 64 | 14.2 | 14.1 | 14.4 | 12.5 | 12.9 | 11.8 | 10.5 | 10.4 | 10.7 |
| 65 & Over | 7.4 | 7.6 | 7.0 | 6.5 | 6.7 | 5.9 | 4.9 | 5.1 | 4.5 |
| TOTAL | 11.2 | 10.2 | 13.0 | 11.1 | 9.3 | 14.4 | 9.1 | 9.7 | 8.1 |

**Table 10. Urban-Rural Comparison of Female Population 15 Years of Age and Over, Number of Females Screened and Percent Screened by County, Project Area, 1968 - 1971.**

| *County* | *Population* | | *# Screened* | | *Percent Screened* | |
|---|---|---|---|---|---|---|
| | *Urban* | *Rural* | *Urban* | *Rural* | *Urban* | *Rural* |
| Darlington | 6,203 | 13,389 | 1,027 | 1,153 | 16.6 | 8.6 |
| Florence | 12,658 | 19,944 | 1,752 | 1,853 | 13.8 | 9.3 |
| Marlboro | 3,876 | 5,792 | 440 | 435 | 11.4 | 7.5 |
| Area | 22,737 | 39,125 | 3,219 | 3,441 | 14.2 | 8.8 |

particularly true in Darlington County. For the project area, 14.2 percent of urban females and 8.8 percent of rural females 15 years of age and over were screened.

Table 11 analyzes age at first pregnancy for females screened and for those 31 females found to have cervical cancer. Of the 6,888 females screened this represents only one-half of one percent. Of the 133 women whose first pregnancies occurred when they were less than 15 years of age, 2.3 percent had cancer of the cervix while no cases were observed among the 915 females who first became pregnant at age 30 and over. For all other age categories, percent of females with cervical cancer varied from 0.3 to 0.7 percent.

**5. Data Correlation of Identified Cases**

Of the several factors which have been implicated in cervical cancer, age at first pregnancy and times pregnant (Gravida) were available for study in this report for 31 positive cases of 6,888 females screened.

Information relative to times pregnant (Gravida) is presented in Table 12. Although there is no consistent relationship between gravida and cancer of the cervix, it is interesting to note that of the 1,249 females who had never been pregnant only one was found to have cancer of the cervix.

**6. Summary**

The project demonstrates that such a program can elicit an effective response in a

**Table 11. Age Category at First Pregnancy of Screened Females and of Females with Cancer of the Cervix and Percent with Cancer of the Cervix by Age Category at First Pregnancy, Project Area, 1968 - 1971.**

| *Age Category at First Preg.* | *Patients Screened* | *# With Cancer Cervix* | *% With Cancer Cervix* |
|---|---|---|---|
| Under 15 | 133 | 3 | 2.3 |
| 15 - 17 | 1,251 | 6 | 0.5 |
| 18 - 20 | 1,817 | 10 | 0.6 |
| 21 - 23 | 891 | 6 | 0.7 |
| 24 - 26 | 396 | 1 | 0.3 |
| 27 - 29 | 144 | 1 | 0.7 |
| 30 & Over | 915 | 0 | 0.0 |
| Never Preg. | 1,249 | 1 | 0.1 |
| Unknown | 92 | 3 | 3.3 |
| TOTAL | 6,888 | 31 | 0.5 |

Table 12. **Gravida of Females Screened and of Females with Cancer of the Cervix and Percent with Cancer of Cervix by Gravida, Project Area, 1968 - 1971.**

| *Gravida* | *Number Screened* | *# With Cancer Cer.* | *% With Cancer Cer.* |
|---|---|---|---|
| 0 | 1,249 | 1 | 0.1 |
| 1 | 952 | 2 | 0.2 |
| 2 | 1,054 | 5 | 0.5 |
| 3 | 946 | 7 | 0.7 |
| 4 | 732 | 5 | 0.7 |
| 5 | 519 | 3 | 0.6 |
| 6 | 409 | 1 | 0.2 |
| 7 | 243 | 1 | 0.4 |
| 8 | 181 | 0 | 0.0 |
| 9 & More | 551 | 5 | 0.9 |
| Unkn. | 52 | 1 | 1.9 |
| TOTAL | 6,888 | 31 | .5 |

target population. Over 7,000 women were screened and more than 60 cases of the cervix cancer identified and referred for treatment. The project reached a higher percentage of high risk, non-white females but failed to screen a proportionate share of rural residents. Although there was no estimate made of improvement in percent of females cytologically examined, the three fold increase in Pap tests performed by cytology laboratories exhibits a marked improvement and reflects a broadening interest by the target population.

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# A LOCAL HABITATION AND A NAME*

FRANK A. SEIXAS, M.D.**

*"The poet's eye in a fine frenzy rolling,*
*Doth glance from heaven to earth and earth to heaven:*
*And as imagination bodies forth*
*The forms of things unknown, the poet's pen*
*Turns them to shapes, and gives to airy nothing*
*A local habitation and a name."*[1]

Shakespeare's prescient lines not only defined the poet's role, it defined that of the scientist. The whole business of names is a matter of making more and more precise definitions so that we may build bridges of communication to each other and to our surrounding environment. As we use the tools of science, we begin to develop names which assist us by crystallizing a concept. In fact, without these names we cannot move forward in our understanding of the natural world. Ohms, millicuries, volts. Humerus, tibia, mesencephalon. Smooth endoplasmic reticulum, RNA double helix. Neuron, axon, dendrite. It has been said that the first two years of medical school consist in developing a vocabulary. Some words are invented for a purpose. Others aggregate around phenomena, which cry for recognition and become more precise as our knowledge increases. Pneumonia, Bright's disease, tuberculosis are such examples.

I am now trapped in the history of a name, beating my way out to clarity for the purpose of crystallizing our concepts and for enabling us, the healers, to perform our historic duty of healing.

### Alcoholism as a Disease

Drinking alcoholic beverages is such a ubiquitous phenomenon that we are late in coming to the separation and distinction of a disease of alcoholism. All along the way some physicians have recognized that there was a syndrome of alcoholism — Thomas Trotter,[2] Benjamin Rush,[3] in colonial days, and more recently Tiebout, and Silkworth.

It was only this year, however, that the American College of Physicians adopted a resolution stating that alcoholism is a disease and the proper province of the internist.

Was the American College of Physicians merely slow in recognizing what others know? Was it mere venal opportunism, knowing of the increasing federal and state funds devoted to alcoholism? I think not. Rather, I think it has occurred because our attention has been brought to alcoholism because of its vast spread, and because previous conceptualizations have been unfruitful. Most importantly tools have been developed which can be profitably used in investigation. Research, much of it initiated during the past three or four years, has begun to give us clarity where there was superstition, supposition, and myth. Scientists have begun to take a new look at alcoholism — and they are mining a rich lode.

### Tolerance and Withdrawal

One of the major assists in our developing concepts of alcoholism has been the advent of the drug culture and our recognition that alcoholism is a true addiction. Such pharmacological addiction exists when a mind altering drug has characteristics of the development of tolerance and the presence of psychological dependency demonstrated by a withdrawal syndrome. Seevers has classified mind altering drugs as central nervous system (CNS) de-

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pressants and stimulants.[4] Alcohol shares with opiates and the sedatives and minor tranquillizers this capacity for producing tolerance and withdrawal syndrome. Tolerance in alcoholism does not refer to an increased ability of the body to dispose of alcohol since that ability can no more than double the body's rate of turnover from under one ounce of whiskey to a little less than two ounces per hour. It rather refers to the adaptation of the brain so that complex skilled acts can be performed at levels of alcohol which would render the novice unable to stand. Thus the thousands of people arrested each year for driving while intoxicated with blood alcohol levels over 150 mg per cent, are people who have developed tolerance. Most of us couldn't even get in the car under such circumstances. The withdrawal syndrome, elucidated by Victor and Adams,[5] Isbell,[6] and Mendelson,[7] is another characteristic. This syndrome has recently been reproduced in experimental animals.

A phenomenon associated with alcoholism and with the kind of heavy drinking leading to it is the blackout period, recently studied by Ryback,[8] and by Goodwin.[9] These periods of amnesia are quite common in alcoholic patients, and seem to be related to a rapidly rising blood alcohol curve.

All the evidence, as well as our common sense, argues that research on alcohol must be performed at the level of its grain metabolism: we are now much more capable than before of investigating this area.

We have learned that ethanol changes the metabolism of catecholamines to abnormal reductive pathways,[10] and that these same catecholamines are implicated in the transmission of nerve impulses from cell to cell.[11]

Because catecholamines do not cross the blood brain barrier, the search for their action must be taken inside the cranium. Here we find in vitro and in vivo studies which suggest that condensation products between alcohol, its metabolites, and the biogenic amines form products similar to opiates.[12] Myers,[13] has shown in elegant experiments that minute quantities of alcohol, so small as not to enter into other bodily processes, infused into the ventricles of the brain, cause a phenomenal increase in alcohol preference in several species of animals. Moreover, this kind of reaction can be materially changed by altering biogenic amine levels in the body or substituting precursors or metabolities of these substances.

**Genetics and Metabolism**

Genetic research has begun to elicit human family,[14] half sibling,[15] and twin patterns which differentiate alcoholics from non-alcoholics. Animals have been bred which avoid or prefer alcohol.[16] Most recently, taking outbred strains of rats bred for avoidance or preference of alcohol, Erikson, Forsander, and Ahti[17] have discovered a mean difference in levels of 5 hydroxytryptophane in their brains, before they had ever been exposed to alcohol. The mean 5 hydroxtryptophane levels became increasingly separated in proportion to the length of exposure to ethanol. After much fruitless effort, this seems to be the first time that we have been able to discover a specific biological difference logically connected to the development of alcoholism in any living species. This discovery may elucidate differences in the capability of developing tolerance.

I[18] have recently pointed out that during the long prodromal period of heavy drinking in an alcoholic, perceptual and cognitive difficulties of varying degrees become the natural background for the development of defenses seen as primary psychological characteristics of the alcoholic person and the similarities of these defenses to those of patients with chronic organic brain syndromes. Approaching the alcoholic patient in a treatment setting gains much from this recognition. However, there is one important difference; the brain syndrome of the alcoholic is slowly reversible once alcohol ingestion is terminated. Noble[19] has recently shown that synthesis of brain protein is decreased by alcohol, but this decrease reverses when alcohol ingestion is terminated. Others[20] have shown electroencephalographic (EEG) changes lasting for two weeks subsequent to cessation of alcohol ingestion. Thus I have called alcoholism a subacute organic brain syndrome.

Alcohol's simple molecule diffuses throughout the body and enters into many metabolic chains. The discussion of whether its intrinsic calories or another factor are primarily responsible for the pathological events which take place are in part a semantic question. However, we have begun to pay more attention not only to these pathological processes, but their connection with alcoholism. Almost every organ system in the body is affected: the gastrointestinal tract by fatty liver, alcoholic hepatitis, Laennec's cirrhosis, malabsorption, astritis, and pancreatitis; the cardiovascular system by arrythmias and cardiomyopathy; the musculoskeletal system by myopathy and osteoporosis, the hematopoietic system by a variety of anemias and bleeding abnormalities. One curious and somewhat rare one is stomatocytosis with hemolytic anemia. Immune response and resistance to infection is decreased. Finally the nervous system itself affected by peripheral neuropathy and by permanent organic brain syndromes: Wernicke-Korsakoff syndrome, cerebellar and cerebral degeneration, and others.[21]

It would be folly, it seems to me, to obscure by not having a single name for it the unity of this ongoing progressive illness, fatal or crippling for so many — with suicide rates which are 58 times the normal,[22] and countless automobile accidents which are a direct part of the process. To lump patients with alcoholism under the rubric of troubled persons, or neurotics, or character disorders is an invitation to blur the realities of the disorder and to continue to hinder progress toward its solution. We not only need the term alcoholism, we need the term alcoholic, or if you will alcoholic person. There is a person wherever there is a disease.

**Facing The Problem**

There is more to it than this, however. It is always a shock for the heavy drinking person, sinking deeper and deeper into social, vocational and physical troubles, to come to the conviction that he is "an alcoholic." But this conviction, once grasped, means that he has a nidus around which to reorganize his life. So many have said, "I was afraid I was losing my mind." "I was so guilty about neglecting my children." It explains the seeming irrationality of his surroundings, gives him an opportunity to allay his resentments and fears, gives him an action program which he can build. An unrecovered alcoholic woman said, "I'd rather be a drunk than an alcoholic. If you are an alcoholic, people expect you to stop drinking and recover."

This is no different than being a diabetic or a cardiac — and people think of themselves in this way, if they are afflicted with these diseases. A recent trend toward honesty about our differences, which would through circumlocution add to stigma, has been one of the most encouraging trends in America. Black is beautiful. Women are women — not to be exploited. We should not be retrogressive just when the general populace is beginning to realize that alcoholism is not a sure sign of evil, bad intentions, or sin.

Thus I urge you to determine the diagnosis of alcoholism for your patients — and when it is determined, with the art of medicine at your command, get to the point of agreement with the patient that this is the diagnosis. The term alcoholic person is important and not the least important is the polite use of 'person'. So much for the name. What about the habitation?

**New Facilities**

For many years it has been customary for the patient with alcoholism, if he were to be treated at all, to be sent to the distant state mental hospital for any phase of treatment. Public inebriates would either be left to sleep it off in a doorway or put into the local drunk tank of the jail. General hospitals have had rules in their by-laws against admitting patients for alcoholism. Insurance plans have excluded alcoholism.

What has resulted from this treatment scheme? Over 40 per cent of male admission to state mental hospitals[24] are for alcoholism. In the past, few of these patients have recovered. Public inebriates achieve records of 100 to 200 admissions without recovery.[25] Many of them die in the drunk tank. Others die in the street, or are taken into the hospital in late stages of pneumonia or, in the winter, with circulatory trouble and gangrene of the leg, necessitating amputation, or with de-

lerium tremens, which has a fatal outcome in about 15 per cent of such cases.[26] Despite the general hospital rules, in the hospitals serving a middle class public 30 per cent of the patients[27] at any time are alcoholic. In the ghetto hospitals the figure goes up to 50 per cent of the males and 46 per cent[28] of the females. In tuberculosis hospitals, up to 80 per cent of the patients are alcoholic.[29]

And none of these patients obtains treatment for his alcoholism. And the third party payments are enormously distorted by claims for gastritis and any other diagnosis the conscientious physician is forced into making to avoid the word alcoholism.

In a recent study in Ireland,[30] 100 patients in an alcoholism service had frequent hospital admissions for alcohol related illness for an average of 6 years before they first received treatment for alcoholism — and many of these during this time caused serious motor vehicle accidents.

A tremendous need has been building up. When a need builds up, some stopgap measures will be taken by those who see the problem. One of the first and most effective of these measures was the development of Alcoholics Anonymous (AA). This self-help peer group organization has demonstrated what can be done by individuals without the help of the medical profession. It has shown that alcoholism can be arrested, and among people who before their entry into AA may have been on the way to death and irreparable disease. There are now over 500,000 active recovering alcoholics in AA in this country alone. Because hospital beds were denied to alcoholics, dry-out places developed, and a few private hospitals began to admit some patients for detoxification, for those who could pay. Sporadically, wards in city hospitals for alcoholics would open and close. It became apparent that an intermediate facility would be helpful, and a goodly number of rehabilitation farms were started, mostly in country settings. These institutions, some with improbable names like Chit-Chat Farms and Livengrin, originally started with only a good country milieu, a liberal indoctrination into AA, and the occasional service of a nearby physician. By now they have developed increasing sophistication, with various modes of group therapy, and some with resident physicians. Some are now building little hospitals for detoxification. Hazelden Foundation in Minnesota, Melwood Farm in Washington, D. C., Hidden Brook in Baltimore and Gray Rock Inn in North Uxbridge, Massachusetts are additional examples.

**Need For Follow-Up**

The patient lucky enough to have the money could go through this process; but on his return to the community he could be faced with a return to a single room, no job, and the prospect of the bottle as the only attractive one. This need has been met by the halfway house, an institution in which, for a nominal sum, recovering alcoholics can stay; shore up one another's sobriety, resolve, and mood; and start to acclimatize themselves to the regular world of work. After a period of four months to a year, such a person may venture out on his own, sometimes in the company of several friends from the halfway house, to find an apartment and reenter fully the world from which alcohol has alienated him. A continued contact with Alcoholics Anonymous, further group therapy, or both, have been found useful either for life or for at least two years after the initiation of treatment.

There has been a growing awareness that the victims's chance of finding AA, which recruits solely by powers of attraction, was only 20 per cent. This has been an impetus to the development of state programs for alcoholism. Development of separate units for alcoholism was begun in some of the state mental hospitals, where program adaptations of the alcoholism rehabilitation farms could be installed.

Recognition that alcoholism is a family disease has resulted in adaptations in a number of these far-a-way centers. For example, Lutheran General Hospital in Park Ridge, Illinois, has constructed in the hospital unit suites where spouses or entire families can accompany their alcoholic family member and participate in the reeducation process. Topeka State Hospital in Kansas has developed in the

community where the patient lives a system of visitation by the counselor who was important in the patient's hospital treatment. Some have developed WATS (Wide Area Telecommunications Service) line telephone systems for followup of distant patients.

### Care In The Community

The other possibility, of course, has always been present. Couldn't the patient be cared for in his own community? One such solution is the development of urban detoxification centers. This kind of facility, primarily utilized in this country for the care of the skid row alcoholic, includes an outreach program to scoop the inebriate off the street and a simple hospital setting for detoxification, manned by physicians and nurses. An important part of any detoxification is the initiation of a long range treatment plan; and social workers, alcoholism counselors, and AA meetings with referral can be effectively used for the latter phases of the five to ten day stay. Detoxification centers have been established in New York; St. Louis; Washington, D. C.; and Buffalo, New York and in other localities.

The detoxification centers, as they exist in this country, take care of only the visible public inebriates. They have not been able adequately to take care of even this load comprising only 5 per cent of the alcoholic population.

This summer the Governors' Commission on Uniform Laws approved a draft law which would make hospitalization of the public inebriate mandatory. It is certain that most states will follow the five states which have already adopted such a law. Moreover, the American Hospital Association has promoted the Joint Commission on Accreditation of Hospitals to make mandatory for accreditation of general hospitals a plan for alcoholism treatment and is undertaking to assist in training personnel.

Thus a trend to induce community hospitals to become involved in the community aspects of disease is forcing us to re-examine what we are doing for the alcoholic in the community hospital. Thus one hospital, by obtaining the services of two AA members in the emergency room on Friday and Saturday nights for a month, saved $1,000.00 in ambulance fees, which would have been charged to transfer alcoholics to the state hospital facility. But this is not enough. Certainly a minimum is to treat these people over the short 5-7 day period required for detoxification and referral. At the Baltimore Quarterway House and other facilities, it has been shown clearly that such treatment not only decreases the incidence of delerium tremens among the in-patients, but also encourages persons affected with alcoholism to come in earlier, even public inebriates. Thus the incidence of amputated gangrenous legs, devastating pneumonias, fatal arrhythmias, and terminal cirrhosis decreases, as well as already active delirium.

Yet community hospitals are in a favorable position to do much more. A common trend in such hospitals is toward the development of progressive care with intensive care units for the seriously ill, conventional active medical and surgical wards, and convalescent sections. The Edward Meyer Hospital in Elmira, New York and the Memorial Hospital at Yale New Haven Medical Center are among those that have developed minimal care wings, where patients may make their own beds, go to a cafeteria for meals, and experience an extended care period in which their own active participation promotes their rehabilitation. This is beneficial for diabetics, cardiacs, and persons affected with fractured hip, stroke, *and alcoholism.* The trend toward establishing psychiatric units in general hospitals is highly desirable for the management of alcoholic patients with serious psychiatric impairment. These services are complemented by community mental health centers. Outpatient departments and in-hospital AA meetings can easily be set up if proper interest and support are encouraged.

### Third Party Payments

The exclusion by third parties of payments for alcoholism is a problem that is being solved. Blue Cross plans are increasingly dropping the exclusion of alcoholism, as are many commercial insurance plans, including those providing major medical insurance. The insurance companies are coming to realize that they can assess the true cost of alcohol-

ism only when reliable actuarial data are available. This trend will help the conscientious physician retain his sense of integrity in treating the alcoholic without the need to dissemble regarding the nature of his illness.

The regimen of the Isadore Tuerck Quarterway House in Baltimore is of interest. Each week for the three week period of the patient's stay the same program is repeated consisting of films, illustrated lectures, talks, and group sessions. The director, when asked the reason for repetition explains: "When they come in, their brains are scrambled." Twenty of the original 36 patients treated in this way are sober and working two years after the treatment.

In a recent assessment of treatment results, Doctor Wallace Mandel of Johns Hopkins Hospital found about 50 per cent recovery or improvement regardless of the modality of treatment used. While this aroused no enthusiasm in him as to the efficacy of one form of treatment over another, he did find something of interest. Regardless of the method of treatment used, the mortality rate dropped precipitously, if the method engaged the patient sufficiently to induce him to stay with it.

Isn't that what it's all about?

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# VOLUNTARY HYPERVENTILATION AS A CAUSE OF NEEDLESS DROWNING*

W. D. SNIVELY, JR., M. D.**
AND JAN THUERBACH

Many practices long thought to be harmless, such as waxing obese on a diet high in saturated fats, have proven to be dangerous, even deadly. So it is with the practice of breathing deeply before swimming underwater. It now appears all too clear that such hyperventilation can induce a shallow water blackout brought on in simple terms from loss of consciousness induced by oxygen starvation of the brain that occurs before the swimmer receives an irrepressible physiologic signal to breathe. Several thousand persons die each year from drowning; it appears entirely possible that a goodly number of these drownings are caused by voluntary hyperventilation. And the very individuals that die in this manner are young, healthy, usually competent, swimmers. How many times we have read or heard, "He was an excellent swimmer. . . . . we just don't understand why he drowned!" Voluntary hyperventilation may well provide the answer.

Typically, drowning following hyperventilation occurs in this manner. A young man is trying to see how far he can swim underwater, perhaps competing in a sense with himself, perhaps trying to better another person's record. He has learned from his agemates or perhaps from a swimming instructor that if he breathes rapidly and deeply for a minute, two minutes or more, he can stay underwater for a relatively long period. And so he hyperventilates, then plunges into the water. Indeed, most individuals that do this no doubt accomplish what they set out to do. They swim for a relatively long distance underwater and emerge happy with their accomplishment. But others simply don't come up. If friends have been watching they may recognize that the individual is in trouble, dive down and bring him up. But all too frequently the most energetic efforts at resuscitation are futile.

### Physiologic Mechanisms

Before examining a series of case histories, let us inquire into the mechanism of drowning caused by underwater swimming following hyperventilation. Normally, arterial blood contains oxygen at a pressure of from 90 to 100 mm of mercury. Venous blood may have an oxygen tension of 40 mm of mercury. If, however, the arterial oxygen pressure ($pO_2$) drops below 60 mm of mercury it is inadequate to provide the brain with sufficient oxygen to maintain consciousness. The exact figure at which the individual loses consciousness can vary with age, conditioning, carbon dioxide tension, and perhaps special susceptibilities. The body contains special sensors that detect dangerously low oxygen concentration and signal the need to breathe. But the signal is a weak one; it can easily be suppressed, especially by a swimmer who is concentrating on endurance and the achievement of a challenging goal.

Far more important than oxygen in signalling the need to breathe is the level of carbon dioxide. Its normal tension ranges between 40 to 50 mm of mercury. When it rises above

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this level it stimulates sensors in the brain and carotid vessels sparking an irrepressible desire to breathe. Now what hyperventilation does is to lower the carbon dioxide tension in the body without importantly changing the oxygen stores. It also causes a reduction in the amount of circulating carbon dioxide (which with water provides carbonic acid, the important acid component of our body fluid). The result is a condition of respiratory alkalosis brought about by carbon dioxide deficit. Respiratory alkalosis interferes with nerve conduction and causes symptoms of hyperventilation, numbness and tingling especially about the mouth and of the hands and feet. In addition, the low pressure of carbon dioxide causes constriction of the blood vessels that supply the brain.

So our swimmer, having enthusiastically hyperventilated, submerges with a reduced carbon dioxide tension depending upon how long and how vigorously he has hyperventilated, and with constricted cerebral blood vessels. As he vigorously swims underwater, the tiny quantities of oxygen stored in the blood become exhausted. And they become exhausted before the carbon dioxide tension can rise enough to stimulate an irrepressbile urge to breathe. Deprived of oxygen, the swimmer becomes unconscious, hence cannot respond to the rise in carbon dioxide that will occur with time. Instead, usually while continuing his swimming movements, he starts breathing and unless he is promptly rescued and resuscitated he will aspirate water and will drown.

**Some Live To Tell About It**

Reports of individuals who suffered loss of consciousness while swimming underwater and did not drown are instructive. These are reported by Craig in *JAMA*, April 29, 1961. An excellent swimmer, age 27, hyperventilated for two minutes before swimming underwater. Endeavoring to swim 200 feet he remembered passing a pool ladder 40 feet from the end. When he reached the end of the pool he surfaced and regained consciousness but remembered nothing after passing the ladder.

Another good swimmer, 18 years old, hyperventilated for one minute before swimming underwater. He swam two laps then felt a need for breath. But reminding himself of the goal he had established, he managed to suppress the urge to breathe. He forgot everything for the third lap. When he surfaced, he coughed and gasped but did not lift his head above the surface. A nearby swimmer, who had been watching the swim, immediately raised the boy's head above the water and he regained consciousness in two or three breaths.

Another boy hyperventilated for two minutes. Underwater he felt he could swim forever, but when partly through his swim he blacked out. When he came to he was on the surface of the water. Dizzy and exhausted he swam for shore. He managed to stagger out but had a headache for the next hour, and could remember no decision to surface.

A 14-year-old hyperventilated for "quite a long time" until he felt dizziness and tingling of the hands and feet. Then he dived into the water and swam several feet beneath the surface for three laps of the 60 ft. pool. He blacked out as he touched the wall but took several strokes of the fourth lap before he began to sink. An observer pulled him to the edge of the pool where he regained consciousness but recalled only the first three laps.

An 18-year-old boy hyperventilated in an effort to swim 120 feet. He noticed the urge to breathe during the middle of the second 60 feet but managed to go on. "Things turned tan." He next remembered lying on the edge of the pool with someone pushing on his back.

A 17-year-old took ten or twelve "very deep breaths," swam 75 feet and was starting a second lap when about halfway back his mind "went blank." Spectators said he continued to swim and appeared to surface after about 160 feet. He then began to sink and was pulled out immediately. Artificial respiration for two or three minutes was necessary to revive him.

Students were asked to swim one length of a 75 ft. pool at the conclusion of a lifesaving class. One man had a "wonderful feeling that I could go, go, go." And while the rest of the

class emerged after one lap, he made a turn and started to swim another lap. The instructor reached over the edge of the pool with his foot and pushed the swimmer on the back, at which he climbed out but did not seem to know where he was. He later said that he did not recall starting the second lap or climbing out of the pool. He had hyperventilated before beginning his swim.

A medical student, working as a lifeguard at a large outdoor pool, hyperventilated before swimming underwater. He was found on the bottom after he had gone about 120 feet. Taken from the water, he was flaccid and cyanotic. Five to seven minutes of artificial respiration was required to bring him around.

Other cases are reported by Strauss in *Emergency Medicine*, July, 1971. A 16-year-old trying to set a new record for himself for underwater swimming hyperventilated for five minutes. His mouth and fingertips became numb. He passed the 50 yard mark with no recollection of air hunger. He noticed a spreading numbness of his arms and legs. At the 60 yard mark he touched the wall and sank. Brought to the surface he coughed violently, vomited, then regained consciousness.

A 27-year-old, inactive man, tried to hold his breath for a new record while floating face down. He hyperventilated vigorously for ten minutes until he was totally numb from head to foot. After three minutes he appeared to go limp. Carried from the water he was rigid and cyanotic. He was not breathing. When his mouth was forced open and the airway cleared, he began to breathe and regained consciousness.

**Case Reports of Drownings**

The preceding were the fortunate individuals. Case reports describe others who died. While evidence concerning deaths from swimming underwater following hyperventilation must perhaps be regarded as circumstantial since post mortem examinations cannot reveal with certainty the true cause of death, the conclusion is reasonably justified that the deaths occurred from blackout underwater caused by hyperventilation plus vigorous swimming.

These reports are from Craig, *JAMA*, April 29, 1961: A young college swimmer desired to swim 150 feet underwater. He swam for some time before he attempted the underwater swim. Suddenly the lifeguard saw the individual on the bottom at the deep end of the pool. He could not have been there more than a minute. Brought from the pool the young man was immediately given artificial respiration, followed by mouth-to-mouth breathing, but the instructor was unable to move any air. A machine resuscitator was no more successful. Autopsy revealed the lungs to be full of water.

A 21-year-old swimming instructor hyperventilated then swam 120 feet underwater when one of the students noticed he was in trouble. Pulled out immediately, members of a fire department used a resuscitator on him. Two physicians were summoned from nearby but their efforts were unavailing. The individual died. No autopsy was performed.

Quite interestingly, many writers who have not cited specific cases allude to persons who have died from hyperventilation before swimming underwater. Gray, in the *Medical Journal of Australia,* Oct. 16, 1966, emphasizes that the "still very common practice of hyperventilation to increase underwater endurance is dangerous and has caused many deaths."

Webster, in *Public Health Reports,* July, 1967, points out that "swimming underwater for endurance, with the accompanying danger of hyperventilation, accounted for six deaths; revival of these victims was not possible even though the accidents in most instances were witnessed and the victims were quickly brought out of the water for application of first aid."

A recent newspaper report, which stimulated the writing of this article, described the case of an outstanding swimmer who drowned in a closely supervised pool, among friends, while swimming underwater. Having just finished a number of sprint laps, he took several deep breaths and started swimming underwater. His body was seen just after that, motionless in the shallow end of the pool. Autopsy findings showed no possible alter-

native cause of death other than blackout hyperventilation.

### Comment

The tiny number of documented case histories of death following underwater swimming after voluntary hyperventilation is dangerously deceiving. It should probably be multiplied by thousands, perhaps tens of thousands, to approach an accurate figure and thus duly reflect the inherent hazards.

Almost all of the recorded victims of drowning or near drowning were reputedly good swimmers, experienced in underwater swimming. The "hyperventilation-before-swimming-underwater" syndrome, therefore, may well explain many if not most of the deaths by drowning of experienced swimmers.

### A Common Practice

Both authors, when unaware of the hazards, engaged in hyperventilation before swimming underwater and, incidentally, have been duly impressed with the distances they swam. The proeedure seemed so inocuous that the possibility of danger never even oeeurred. It is not surprising, then, that such hyperventilating is a eommon practice among persons attempting endurance swimming underwater.

The senior author has repeatedly quizzed nursing students, the question being: "How many of you have breathed deeply and rapidly in order to swim farther underwater?" About 40 per cent of the students in southern Indiana responded affirmatively, about 60 per eent in Miehigan, which abounds in lakes and hence in swimming opportunities.

### The Goad of Competition

Another factor is strongly involved in deaths from swimming underwater after hyperventilating and that is the competitive urge. Persons who are driven toward a goal, whether they are competing with themselves or others, will fight desperately to overcome the urge to breathe when the signal first intrudes on their consciousness. Craig adds that "preoeeupation with a goal may also affeet how the subjeet will sense and interpret his physiologic warning bell telling him to eome up for air." This signal, of course, is the rising level of carbon dioxide in the blood. And if the swimmer is successful in suppressing the urge to breathe, oxygen deprivation of the brain takes over and the individual blacks out.

Some persons appear to be particularly sensitive to hyperventilation and perhaps more prone to shallow water blackout. Another factor that frequently enters in is overexertion. Strenuons exercise appears to increase one's tolerance of lowered carbon dioxide tension. This, of course, enhances the probability of cerebral hypoxia; the most dreadful aspect of hypoxia is that consciousness is lost with little warning. When one faints he has several seconds warning. But hypoxic subjects, swimming underwater, may eontinue their swimming activity in the period between loss of consciousness and final collapse. Indeed, after blackout occurs, many swimmers continue to make coordinated movements, one even executed a turn on to the next lap beyond the point that he recalled. Therefore, even if the victims are fortunate enough to have speetators, the latter will probably not suspeet that a problem exists until final collapse occurs.

### Effects of Hyperventilation

The physiologic effeets experienced by swimmers in shallow water blackout closely resemble the reactions noted when a person breathes deeply and rapidly out of water. One questions whether one can render himself unconscious in this manner. But sueh unconsciousness has been reported and, in fact, a medieal student died beeause of hyperventilation carried out in a physiological experiment.

Persons lowly placed on the rungs of society have a way of discovering sueh basic truths. Several eenturies ago, seamen performing under the savage punishment codes of the English Navy, sentenced to flogging until unconseiousness should supervene, discovered that by breathing deeply and rapidly before the flogging they would beeome unconseious sooner. Similarly, eonvicts desiring to end an intolerable existence have reportedly hyperventilated then submerged their heads in the toilet bowls in their cells, taking the precaution of propping their bodies, and thereby committing suicide in a relatively unpainful manner.

Specifically, the symptoms of hyperventilation include tremors, lightheadedness, double vision, vertigo, epileptic-like seizures, coldness of the arms and legs, irritability, decreased ability to concentrate, diuresis, hunger, and EEG changes. Likewise, the systemic effects of hyperventilation are significant: low blood pressure, constriction of the blood vessels of the brain, decreased brain blood flow, vasoconstriction of the peripheral vessels, and certain EKG abnormalities that are consistent with hypoxia.

**Treatment**

Unfortunately little can be said for immediate treatment of persons apparently drowned after swimming underwater following hyperventilation. Indeed, they seem to be singularly resistent to resuscitation, probably because the immediate stimulus for their drowning was hypoxia. As Wong and Grace point out in *JAMA*, Nov. 16, 1963, survivors of near drowning should be hospitalized and given prolonged intermittent positive pressure breathing with 100 per cent oxygen. Immediate efforts should be made to correct the serious blood volume and electrolyte derangements that occur. Still, prevention is ever so much better than treatment and prevention consists quite simply of advising coaches, teachers, students, and swimmers of the deadly hazard of hyperventilation before swimming underwater. Conversations with experienced swimmers, coaches and experts in the field of athletics reveal that many instructors still advocate deep breathing techniques. Obviously, those versed in the details of physiology caution against this hazardous practice even though, admittedly, the hazard is a matter of degree. Craig, in *JAMA*, April 29, 1961, points out that taking a few deep breaths before diving in and swimming underwater is not likely to cause difficulty. In a series of studies, approximately three thousand children swam underwater after taking just a few deep breaths before any incidence of loss of consciousness occurred. So underwater swimming is probably quite safe in the absence of prolonged hyperventilation. It is extreme hyperventilation that counteracts the built-in warnings that urge the swimmer to come to the surface, permitting him to proceed to his doom without any real desire to breathe.

Considering, however, the varying susceptibilities of different individuals to the effects of excessive breathing practices, and in view of the diverse interpretations of "just a few deep breaths," perhaps the practice of hyperventilating before swimming underwater should be discarded entirely.

It must also be borne in mind that hyperventilation can result from vigorous exercise and, therefore, the individual should be cautioned against swimming underwater if he has recently swum vigorously on the surface of the water.

**Divers Have Breathing Technique**

Korean women who dive for a livelihood, known as ama, indulge in light hyperventilation prior to diving. "Before each dive, they hyperventilate, pursing their lips and in many loud whistles that can be heard for long distances." Upon emergence they repeat this maneuver which they claim "protects their lungs". Perhaps the ama have learned over the centuries that hyperventilation helps but that it must be exceedingly mild if they are to stay out of danger. Perhaps through age old custom they have perfected a technique of getting ready for diving that limits the blowing off of carbon dioxide to a safe level. But until one learns the secret of the ama, the practice of hyperventilation should be avoided.

**Conclusion**

Overbreathing before preparing to swim underwater is an obvious cause of needless death in healthy, vigorous, usually competent, swimmers. Individuals should be informed of the hazards of this practice and of the basic physiologic concepts involved.

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### Medical Group Held Liable For Patient's Loss of Vision

A man who lost the sight of one eye, allegedly as a result of substandard care in a hospital, was awarded $90,000 by a California jury.

The patient brought action for malpractice against the hospital, a medical group, and two physicians. He contended that his loss of vision was caused either by a bacterial infection resulting from substandard care and left untreated or by an orbital hematoma caused by substandard care. He allegedly entered the hospital for removal of nasal polyps and had become blind in his right eye by the time he left. He also claimed that loss of vision resulted in his failure to get a promotion on his job.

After reviewing the entire case, a physician testified that the patient's loss of vision was caused by substandard care by one of the physicians named in the suit. Two partners in the medical group testified as to their opinion that the loss of vision was caused by a virus infection for which there was no known treatment. Another physician testified on rebuttal that it was not possible for a virus infection to be responsible.

The jury awarded the patient $90,000 against the medical group. A nonsuit was granted as to the hospital.—*Kitzmiller v. Kaiser Foundation Hospital* (Cal,Super.Ct., San Francisco Co., Docket No. 589766, 1971)

### Pregnancy After Tubal Ligation

A woman who sued a physician because she became pregnant after sterilization was denied damages. An Illinois trial court directed a verdict in favor of the physician.

When the woman was pregnant with her fifth child, she requested sterilization because her husband was irregularly employed. After undergoing tubal ligation, the woman again became pregnant and gave birth to a sixth child.

The woman and her husband brought action against the hospital and the physician who performed the sterilization, contending that after the sterilization, she had been given a warranty that she could enjoy sex without fear of pregnancy. In addition, she claimed injuries in the need to support another child, in having had to suffer the pains of childbirth, and in having "hindered sensibilities" about sex.

An attorney for the physician contended that a sterilization guarantee had to be a specially written contract. At the end of the trial, the jury brought in a directed verdict of not guilty for the physician.—*Rogalo v. Silva* (Ill.Cir.Ct., Cook Co., Docket No. 67-L-12275, Jan. 18, 1972)

# President's Page



First of all, I want to thank the members of the South Carolina Medical Association and its House of Delegates for the honor and privilege of serving as president for the coming year.

The annual meeting at Myrtle Beach has just been completed. The interest, the seriousness of purpose, and the fine intent in conducting the affairs of the Association, among the other officers and the delegates, were impressive. The scientific program was splendid, with one or two exceptions, which I hasten to add were not the fault of the Program Committee, which should be commended highly.

Certainly, one of the highlights of the meeting would have to be considered the decision by the House of Delegates that the South Carolina Medical Association should sever all connections with Blue Cross and Blue Shield. Actually there was no connection with Blue Cross to sever, but that was an unimportant point. The significant fact was that a very simple resolution was passed with surprisingly less debate than one would have anticipated and which would have been impossible so recently as a year ago. Actually, the Legislature of the State of South Carolina had already esvered the connection and the consensus of the Delegates seemed to be an acceptance of the fact that Blue Shield was really no longer the Doctor's Plan. The Executive Director of Blue Shield, Mr. Joseph Sullivan, made an eloquent plea, so to speak, for the Association to continue its official connection, but again this was to no avail. Actually, it seemed to many that maintenance of an official connection meant nothing except possibly a competitive advantage for Blue Shield, and it appeared that many felt that this was no longer justified in view of the fact the Blue Shield was simply another mutual company.

In recent years, one is impressed with the number of times that one hears or reads a statement to the effect that National Health Insurance is inevitable. The medical profession should pose this question again and again to itself and strive to work with some degree of unanimity to avert this possibility. Many of the criticisms of the medical profession today are based on inaccurate or improperly interpreted data. Others appear to be based on an almost insatiable desire of some politicians and other liberals to expand the role of the Federal Government to provide medical care for everyone from the cradle to the grave. If history ever repeats itself and if objective studies of the various systems of socialized care in Europe are accurate, the imposition of socialism in medicine on the American public would not improve the quantity or the quality of medical care available to the populace today. It is urged that those who feel that continuation of the present systems of delivery of medical care should be maintained with improvements where indicated, should work together more than ever in the near future to see that National Health Insurance is not inevitable.

Edward F. Parker, M. D.
President

# Editorials

### Editor's Recommendations

As I am now in the process of leaving, I would like to suggest or recommend some changes in the operation of the *Journal of the South Carolina Medical Association*. The first recommendation I would make is that there should be a centralization of the *Journal's* operations in one office. Along these lines, I would suggest that, for example, all matters dealing with advertising revenues, printing costs, etc. be handled in the office of the editor with the assistance of someone designated by the Executive Secretary's office. I think this would help with the overall efficiency in the operation of the *Journal*.

A second recommendation which I would strongly make is that local advertising be solicited for the *Journal*. By local advertising, I mean within the state of South Carolina. It should be limited to appropriate material for a scientific publication. It would be my impression from a very few inquiries that this could be quite easily obtained and I feel it would certainly help in terms of the financial aspects of the Journal's operation. I think again that someone whom the Executive Secretary's office could designate might help in this area.

I would make a suggestion as well that perhaps the *Journal* be considered as the primary publication of the South Carolina Medical Association. From this viewpoint, I would suggest that publications of the various Medical Association groups and individuals be centralized within the *Journal*. I think this would help reduce overall costs for the Medical Association as well as provide one convenient source to refer to for all Medical Association activities and news.

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### New Editor

With Dr. Thomas' departure from the state, the position of editor of the *Journal* will become vacant. This position will be filled by the Council of the South Carolina Medical Association, which would be interested in having knowledge of persons interested in an appointment to the vacancy.

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### Fragmentosis or Unitasis in Medicine

The medical profession today is becoming highly fragmented. There have always been divisions of opinion. There were homeopaths and eclectics and allopaths, but these differences have largely been resolved. There have been osteopaths, most of whose departures from the orthodox medical fold have been eliminated at the scientific level, and are resolving at the educational and administrative levels. But as old divergences disappear, new ones develop.

The American Medical Association survives as the organizational base for the preponderance of practicing physicians and their colleagues in teaching, research, administration and the like. It is slow to change its policy positions. Perhaps there is no single physician who agrees with them all. As a result, there have been, and continue to be defections, on grounds which may be religious, political, financial, or philosophical. There are those who might otherwise be content, but who object to the AMA position on abortions as being too liberal or too constrictive, so some of each persuasion split off. There are those who object to the concepts of the way in which the medical profession should deal with government, at arms length or in close collaboration. There are physicians who are persuaded that the entire delivery system of medical care must be structured along the Russian principles of dialectic materialism. There are conservatives and ultra-conservatives. There are large numbers of medical stu-



## PROTEIN CONTENT / 1 Cup Prepared Soup*

| | | | |
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| Bean with Bacon | 7.7 | Green Pea | 7.8 |
| Beef | 9.1 | Hot Dog Bean | 8.6 |
| Chicken Broth | 8.4 | Oyster Stew | 6.0 |
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Most women* with a **balanced hormone profile and normal menses** do best on a middle-of-the-road pill that is neither estrogen dominant nor strongly progestogen dominant.

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**Special note**—Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

**Indication**—Ovulen and Demulen are indicated for oral contraception.

**Contraindications**—Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

**Warnings**—The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality conducted in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis, pulmonary embolism, and cerebral thrombosis and embolism and the use of oral contraceptives. There have been three principal studies in Britain[1-3] leading to this conclusion, and one[4] in this country. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll[3] was about sevenfold, while Sartwell and associates[4] in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as nonusers. The American study also indicated that the risk did not persist after discontinuation of administration and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Ovulen and Demulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

**Precautions**—The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen or Demulen. Therefore, if such tests are abnormal in a patient taking Ovulen or Demulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations preexisting uterine fibromyomas may increase in size. Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Ovulen or Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen or Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen or Demulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen or Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

**Adverse reactions observed in patients receiving oral contraceptives**—A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in $T^3$ uptake values; metyrapone test and pregnanediol determination.

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**Indication**—Enovid-E is indicated for oral contraception.

The *Special Note, Contraindications, Warnings, Precautions* and *Adverse Reactions* listed above for Ovulen and Demulen are applicable to Enovid-E and should be observed when prescribing Enovid-E.

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dents, interns, residents, young physicians and academicians who follow essentially no leadership, but regard themselves simply as anti-establishmentarian. The question arises as to the survival value of a profession so beset. Indeed, the question may be raised as to the capacity to endure as a profession. This might be a highly hypothetical question, were it not for the fact that the critics of medicine are so willing to move in through legislative avenues to convert the entire profession into a public utility, governmentally operated and peopled by highly educational technical tradesmen.

I presume that there will always be an inability of a middle ground organization to accommodate extremists. There will inevitably be radical rebellionists on the left and reactionary isolationists on the right. They may be left to their own devices. But I would submit that for the overwhelming majority of professional medical people, there should be some broadening of perspective. If the AFL-CIO, UAW, UMW, Steelworkers and Teamsters can coalesce to defeat us, can we defend ourselves from tiny diverse and divided camps? Tunnel vision, or gun-barrel sight is a serious disability.

The greatest threat to American medicine today is not outside our profession, but within it. If there are things which are not clearly right in the policies of our major medical organization, the work of those who disagree can set them right. The need is for cooperative, constructive strengthening of the position of a great profession. With that strength we need not fear external assaults.

(Excerpt from an editorial by Russell B. Roth, M.D., Speaker of the AMA House of Delegates, in December 1971 bulletin of the Erie County Medical Society.)





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# SCMA

## EDITOR'S REPORT, 1972

The *Journal of the South Carolina Medical Association* has continued to enjoy the benefits of the change to using Provence-Jarrard as the printer. The editorial assistant, Mrs. Esther Temple, has continued to function in a most effective and efficient manner, reducing editorial problems to a minimum. Dr. Joe Waring, Editor Emeritus, has continued to be most gracious and helpful to the present editor, lending his expertise and extensive experience as needed. A continuing and recurrent problem over the years has been a lack of volume of scientific material submitted for publication. This becomes accentuated as advertising material increases since a balance must be maintained to continue as a tax-free publication. It seems, however, that more interest is being generated with physicians for publication of scientific material in the *Journal*.

There will be an upcoming change related to a change in professional roles for the present editor, who will move from South Carolina in the near future. At the present time a search is underway for a suitable replacement with what appear to be some excellent prospects.

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## COMMITTEE REPORT

### Committee Report on Medical Aspects of Sports

The meeting was held on March 20, 1972 with Dr. James L. Hughes, Chester, S. C.; Dr. William B. Evins, Greenville, S. C.; Dr. Walton L. Ector, Charleston, S. C.; to discuss the plans for continuing education of high school coaches and trainers for this year. Tentative plans are made to have the Athletic Symposium in combination with the Coaches Clinic in Columbia the first week in August with emphasis being placed on basketball and football injuries. Particular emphasis will be placed on team requirements for equipment, the safeguards for prevention of injuries, and recommend that a physician be in attendance in all contact sports and further the education of student trainers to assist in high school athletic programs.

To augment the rehabilitation of injured athletes, a program is being instigated at the high school level.

Procedures are being formulated and steps taken to improve the condition of athletes reporting for the North-South Football Game which is held in conjunction with the Coaches Clinic the first week in August to try and minimize heat problems and injuries that occur to these young athletes. The college trainers and the high school coaches league are working very closely with our committee to obtain the desired results. A considerable amount of progress has been made in the past few years and hopefully this condition can continue to prevail.

E. M. Lunceford, Jr., Chairman

---

### Purposed Regulations For The North vs. South All Star Games

1. Physical examination to be given by a group of Team Doctors on Tuesday Evening – Practice beginning on Wednesday.
   A. Doctors and Trainers will select a form to use for this examination.
   B. Players who appear to be overweight (Doctor's discretion) will be given a physical test Wednesday morning geared to determine if the athlete has conditioned himself for the practices to follow.
   C. Equipment brought by the players will be checked for proper fitting during the examination by Trainers. Equip-

ment which is not adequate must be replaced by the high school the player comes from during the days the team practices in shorts.

D. During the examination, a three fold injury card will be prepared. One fold will contain home address, phone, family doctor; another fold will have college he is attending, addressed to the Trainer or Athletic Dept; the other fold will be kept by the Trainer working the game. On the back of these can be recorded any injury the athlete encountered and what was done. After the game is over, the cards can be mailed to his home and college.

E. Doctors giving the examination will talk to the coaches and players of each team, as a whole, about breaks, salt and fluid retention, symptoms of heat illness, diet and other measures which might be taken to prevent a problem during that time of year in Columbia.

. A designated number of practices – twice a day.

1st day A. Wednesday – Shorts, T-Shirts, Shoes, No pads of any kind, *No football taken on field,* day of conditioning, acclimatization, getting used to field.

2nd day B. Thursday – Shorts, Shoulder pads, helmets, football taken on field.

3rd day C. Friday – Shorts, shoulder pads, helmets.

4th day D. Saturday – Full gear – scrimmage

5th day E. Sunday – Off, Go Home.

6th day F. Monday – Shorts, shoulder pads, helmets

7th day G. Tuesday – Full gear – scrimmage

8th day H. Wednesday – Shorts, shoulder pads, helmets

9th day I. Thursday – Game gear – pregame warm-up – very light practice

Friday – GAME

. The number of breaks during practice and time for each break will be determined by the Trainer for each team using the W.B.G.T. as his index.

. The South Carolina Athletic Trainers Association will supply a Nationally Certified





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Trainer and three Student Trainers to work the South Football and Basketball teams and a National Certified Trainer and three Student Trainers to work the North Football and Basketball teams. Both head trainers and students to be financially reimbursed for their time by the SCACA.

After the game, a physical examination given by a group of team doctors. This would be done in the dressing room with no one in the room except doctors, trainers, and individual team coaches.

---

## New Members, S.C.M.A.

**Dr. David Bacon Marcotte**
80 Barre St.
Charleston, S. C. 29401

**Dr. John M. Barnard**
710-A Pendleton St.
Greenville, S. C. 29601

**Dr. Francis H. Bledsoe**
24 Vardry St.
Greenville, S. C. 29601

**Dr. Linwood G. Bradford**
738-B W. Liberty St.
Sumter, S. C. 29150

**Dr. Wm. Henry Coles**
80 Barre St.
Charleston, S. C. 29401

**Dr. Samuel J. Corbin, Jr.**
455 Guignard Dr.
Sumter, S. C. 29150

**Dr. Charles E. Corley, III**
Richland Mem. Hosp.
Columbia, S. C. 29201

**Dr. Robert A. Dameron, Jr.**
801 N. Fant
Anderson, S. C. 29621

**Dr. John D. Fletcher, Jr.**
1243 Savannah Hwy.
Charleston, S. C. 29407

**Dr. Robert M. Harris**
800 Carolina Ave.
Hartsville, S. C. 29550

**Dr. James C. Hiott**
764 Med. Ct.
Sumter, S. C. 29150

**Dr. Warren F. Holland**
2749 Laurel St.
Columbia, S. C. 29204

**Dr. Jo H. Johnson**
Seneca, S. C. 29678

**Dr. M. O. Khan**
Barnwell, S. C. 29812

**Dr. Robert T. Kindley**
Hartsville, S. C. 29550

**Dr. Middleton H. Lambright**
24 Vendue Range
Charleston, S. C. 29401

**Dr. Joseph F. A. McManus**
80 Barre St.
Charleston, S. C. 29401

**Dr. Walter J. McMath**
131 Sumter Ave.
Hartsville, S. C. 29550

**Dr. Robert Malanuk**
S. C. Baptist Hosp.
1519 Marion St.
Columbia, S. C. 29201

**Dr. Rufus E. Medlin**
V. A. Hosp.
Columbia, S. C. 29201

**Dr. Eula H. Pate**
Walhalla, S. C. 29691

**Dr. Frederic A. Stone**
5 E. Calhoun St.
Sumter, S. C. 29150

**Dr. Lawrence R. Sutherland**
Toumey Hosp.
Sumter, S. C. 29150

**Dr. Victor Y. Tyrone**
Hartsville, S. C. 29550

## A CONCURRENT RESOLUTION

TO EXPRESS THE APPRECIATION TO THE SOUTH CAROLINA MEDICAL ASSOCIATION, THE HEART ASSOCIATION OF SOUTH CAROLINA AND NURSES MARY ANN FLYNN AND MYRA CASH FOR PROVIDING AND MOST EFFICIENTLY OPERATING A LIFE SAVING STATION IN THE LOBBY OF THE STATE HOUSE.

Whereas, during sessions of the General Assembly the lobby of the State House is crowded with members, State officials and visitors and constitutes the busy center of legislative activities and the operation of State government; and

Whereas, the South Carolina Medical Association in cooperation with the Heart Association of South Carolina has provided, during the 1972 Session, a life-saving station prepared to handle minor medical services to persons in the State House, and more importantly has been available for major medical emergencies when needed; and

Whereas, this fine service has been conducted with great efficiency and charm by nurses Mary Ann Flynn and Myra Cash, young ladies who have enhanced both the medical security and the beauty of the State House; and

Whereas, the Medical Association, the Heart Association and the above named ladies merit the praise and appreciation of the General Assembly for establishing this outstanding facility for the General Assembly, Now therefore, Be it resolved by the Senate, The House of Representatives concurring: That the General Assembly by this resolution expresses its appreciation to the South Carolina Medical Association, the Heart Association of South Carolina and to Mary Ann Flynn and Myra Cash for establishing and operating the life saving station at the State House and commends them for the excellent quality of its operation.

Be it further resolved that copies of this resolution be forwarded to the South Carolina Medical Association, the Heart Association of South Carolina and to Myra Cash and Mary Ann Flynn.





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The Journal of the South Carolina Medical Association

## 50 YEARS AGO

**June, 1922**

Dr. W. R. Wallace, in discussing a paper on radium, described his happy results in the treatment of fibroid tumors. Dr. Leon Banov commented on the many dangers of the innumerable open wells which were in use in this state.

## Auto Leasing Plan

The Council of the South Carolina Medical Association, meeting at Myrtle Beach on May 14, 1972, approved the proposal to endorse automobile leasing plans presented by King Oldsmobile, Inc., of Spartanburg, and the Moore Oldsmobile-Cadillac Co. in Columbia.

South Carolina physicians who are members of the Medical Association will be eligible to lease automobiles at a reduced rate by supporting this Association sponsored plan. More on this will appear in the July issue of the *Journal.*

# CANCER TOPICS

## REACH TO RECOVERY

PAUL H. O'BRIEN, M.D., F.A.C.S.*
MEG KELLEY (MRS. PAUL W. KELLEY)**

Our column today is of the American Cancer Society Reach to Recovery Program. This program is administered and executed solely by volunteers. It is a program that is maintained for and by women who have suffered from cancer of the breast. In 1972, there should be some 650 new cases of breast cancer in South Carolina. Hopefully, with self awareness and physician awareness, these breast cancers will be candidates for curative surgery. After such hoped for curative surgery, we still have a patient who has undergone a severe blow, possibly more than ever in this mammary gland oriented society. Their problems persist long after their surgical scars have healed. The practical and emotional support that these patients require can be given by the Reach to Recovery volunteer. The program Reach to Recovery is outlined here by Mrs. Meg Kelley. The program works best when the surgeon with an appropriate candidate contacts the Volunteer Coordinator on either the day of surgery or the day after. If local volunteers are not available, a volunteer can be found by calling the Columbia Headquarters of the American Cancer Society, South Carolina Division.

What is Reach to Recovery? "The Reach to Recovery Program of the A. C. S. is a rehabilitation program for women who have had breast surgery, and it is designed to help them to meet the psychological, physical, and cosmetic needs," according to a brief definition written by Terese Lasser who originated the program and who is currently the National Consultant and Coordinator for the program. Mrs. Lasser saw a need for a special rehabilitation program for mastectomees when she herself experienced the emotional upheaval of having a breast removed and having to seek out for her own use many of the answers which she thought she needed but which were not regularly available from the hospital staff. She concluded that her recovery would have been much less emotionally traumatic if she could have talked to someone a few days after her surgery and obtained the advice and reassurance which seemed so vitally necessary at that point. When she discussed this need with her attending surgeon in later months, he challenged her to design such a program. She accepted that challenge, and Reach to Recovery was born. Working alone at first and at her own expense, she visited the patients of her own surgeon at his request and found the women eager for such help. The rapid growth of the program since its inception in 1953 has resulted in help being given to women in all fifty states and many foreign countries. Since 1969 the program has been sponsored by the A. C. S. as a service to cancer patients. Early in 1970 the program was organized in four pilot counties in South Carolina, and in two years it has spread to seven additional counties. More than 352 South Carolina pa-

*Director of Cancer Clinic, Associate Professor of Surgery, Medical University of South Carolina.
**Volunteer Coordinator, Charleston County Unit, A. C. S.

tients have already been helped by Reach to Recovery but, as can be seen from the incidenee figures of 650 cases per year, there is still considerable room for expansion of these services.

How does Reach to Reeovery work? When requested by the attending surgeon, and *only* with his authorization, a specially seleeted and trained volunteer who is also a recovered mastectomee visits the patient in the hospital about four days after surgery. At this time the volunteer brings the patient a free kit containing literature with information and precautions for self-help toward a more rapid and full recovery, simple devices for exercising the arm (shoulder to hand) on the side affected by surgery when the surgeon approves of such exercises, and a temporary prosthesis for cosmetic use until ready to be fitted for a permanent breast form. The volunteer also brings sueh practical information as a list of the local suppliers of permanent prostheses, the types available and the list priees. She is prepared to explain and demonstrate the exercises, give suggestions for bra comfort and the adjustment of clothing to conceal surgical scars, and to discuss other personal adjustment problems. Perhaps of greater importance, she can present living proof that losing a breast does not mean the end of life, since she can say, "Not too long ago I was in the same condition as you are, and for the same reason. . . .I do everything I did before. I wear the same kind of elothes, go to the beach, swim, dance, wear evening gowns. . . .My experienee indicates that you will be just as much a woman in every way as you were before the operation."

Another phase of the Reach to Reeovery Program is the periodic holding of local open forums in seleeted hospitals in many eities, for women who have had mastectomies. A qualifield surgeon is always present at these meetings to answer medical questions. These sessions prove to be wonderful group therapy for the participating women and they provide some feedback which is used to improve the program and to update the information being passed along to women throughout the world.

A third phase of the program is the education of personnel responsible for the comfort and encouragement of mastectomy patients. For this purpose lectures, film showings and demonstrations are presented at many nursing sehools and large hospitals. County Unit Medical Advisors for Reach to Recovery present similar programs to acquaint physicians and surgeons with the existence and aims of the program and how it can be used in meeting the needs of their patients. One aim of the educational program is to create an awareness of the patient's reaetion to breast surgery and her need for help in becoming a better adjusted person with a more positive view of herself.

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## of moderate to severe intensity

Though Talwin® can be compared to codeine in analgesic efficacy, it is not a narcotic. So patients receiving Talwin for prolonged periods face fewer of the consequences you've come to expect with narcotic analgesics. And that, in the long run, can mean a better outlook for your chronic-pain patient.

**Talwin Tablets are:**

- **Comparable to codeine in analgesic efficacy:** one 50 mg. Talwin Tablet appears equivalent in analgesic effect to 60 mg. (1 gr.) of codeine. Onset of significant analgesia usually occurs within 15 to 30 minutes. Analgesia is usually maintained for 3 hours or longer.
- **Tolerance not a problem:** tolerance to the analgesic effect of Talwin Tablets has not been reported, and no significant changes in clinical laboratory parameters attributable to the drug have been reported.
- **Depéndence rarely a problem:** during three years of wide clinical use, only a few cases of dependence have been reported. In prescribing Talwin for chronic use, the physician should take precautions to avoid increases in dose by the patient and to prevent the use of the drug in anticipation of pain rather than for the relief of pain.
- **Not subject to narcotic controls:** convenient to prescribe—day or night—even by phone.
- **Generally well tolerated by most patients:** infrequently cause decrease in blood pressure or tachycardia; rarely cause respiratory depression or urinary retention; seldom cause diarrhea or constipation. If dizziness, lightheadedness, nausea or vomiting are encountered, these effects tend to be self-limiting and to decrease after the first few doses. (See last page of this advertisement for a complete discussion of adverse reactions and a brief discussion of other Prescribing Information.)

50 mg. Tablets

**Talwin®**

brand of

**pentazocine** (as hydrochloride)

the long-range analgesic

# a new outlook in chronic pain

## of moderate to severe intensity



**Contraindications:** Talwin, brand of pentazocine (as hydrochloride), should not be administered to patients who are hypersensitive to it.

**Warnings:** *Head Injury and Increased Intracranial Pressure.* The respiratory depressant effects of Talwin and its potential for elevating cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions, or a pre-existing increase in intracranial pressure. Furthermore, Talwin can produce effects which may obscure the clinical course of patients with head injuries. In such patients, Talwin must be used with extreme caution and only if its use is deemed essential.

*Usage in Pregnancy.* Safe use of Talwin during pregnancy (other than labor) has not been established. Animal reproduction studies have not demonstrated teratogenic or embryotoxic effects. However, Talwin should be administered to pregnant patients (other than labor) only when, in the judgment of the physician, the potential benefits outweigh the possible hazards. Patients receiving Talwin during labor have experienced no adverse effects other than those that occur with commonly used analgesics. Talwin should be used with caution in women delivering premature infants.

*Drug Dependence.* There have been instances of psychological and physical dependence on parenteral Talwin in patients with a history of drug abuse and, rarely, in patients without such a history. Abrupt discontinuance following the extended use of parenteral Talwin has resulted in withdrawal symptoms. There have been a few reports of dependence and of withdrawal symptoms with orally administered Talwin. Patients with a history of drug dependence should be under close supervision while receiving Talwin orally.

In prescribing Talwin for chronic use, the physician should take precautions to avoid increases in dose by the patient and to prevent the use of the drug in anticipation of pain rather than for the relief of pain.

*Acute CNS Manifestations.* Patients receiving therapeutic doses of Talwin have experienced, in rare instances, hallucinations (usually visual), disorientation, and confusion which have cleared spontaneously within a period of hours. The mechanism of this reaction is not known. Such patients should be very closely observed and vital signs checked. If the drug is reinstituted it should be done with caution since the acute CNS manifestations may recur.

*Usage in Children.* Because clinical experience in children under 12 years of age is limited, administration of Talwin in this age group is not recommended.

*Ambulatory Patients.* Since sedation, dizziness, and occasional euphoria have been noted, ambulatory patients should be warned not to operate machinery, drive cars, or unnecessarily expose themselves to hazards.

**Precautions:** *Certain Respiratory Conditions.* Although respiratory depression has rarely been reported after oral administration of Talwin, the drug should be administered with caution to patients with respiratory depression from any cause, severe bronchial asthma and other obstructive respiratory conditions, or cyanosis.

*Impaired Renal or Hepatic Function.* Decreased metabolism of the drug by the liver in extensive liver disease may predispose to accentuation of side effects. Although laboratory tests have not indicated that Talwin causes or increases renal or hepatic impairment, the drug should be administered with caution to patients with such impairment.

*Myocardial Infarction.* As with all drugs, Talwin should be used with caution in patients with myocardial infarction who have nausea or vomiting.

*Biliary Surgery.* Until further experience is gained with the effects of Talwin on the sphincter of Oddi, the drug should be used w caution in patients about to undergo surgery of the biliary tra

*Patients Receiving Narcotics.* Talwin is a mild narcotic antagon Some patients previously receiving narcotics have experienced m withdrawal symptoms after receiving Talwin.

*CNS Effect.* Caution should be used when Talwin is administe to patients prone to seizures; seizures have occurred in a few su patients in association with the use of Talwin although no cause a effect relationship has been established.

**Adverse Reactions:** Reactions reported after oral administrat of Talwin include *gastrointestinal:* nausea, vomiting; infrequen constipation; and rarely abdominal distress, anorexia, diarrh *CNS effects:* dizziness, lightheadedness, sedation, euphoria, he ache; infrequently weakness, disturbed dreams, insomnia, synco visual blurring and focusing difficulty, hallucinations (see *Ac CNS Manifestations* under WARNINGS); and rarely tremor, in tability, excitement, tinnitus. *Autonomic:* sweating; infrequen flushing; and rarely chills. *Allergic:* infrequently rash; and rar urticaria, edema of the face. *Cardiovascular:* infrequently decre in blood pressure, tachycardia. *Other:* rarely respiratory depressi urinary retention.

**Dosage and Administration:** *Adults.* The usual initial adult dos 1 tablet (50 mg.) every three or four hours. This may be increa to 2 tablets (100 mg.) when needed. Total daily dosage should n exceed 600 mg.

When antiinflammatory or antipyretic effects are desired in ac tion to analgesia, aspirin can be administered concomitantly w Talwin.

*Children Under 12 Years of Age.* Since clinical experience in c dren under 12 years of age is limited, administration of Talwin this age group is not recommended.

*Duration of Therapy.* Patients with chronic pain who have recei Talwin orally for prolonged periods have not experienced wi drawal symptoms even when administration was abruptly disc tinued (see WARNINGS). No tolerance to the analgesic effect been observed. Laboratory tests of blood and urine and of liver kidney function have revealed no significant abnormalities af prolonged administration of Talwin.

**Overdosage:** *Manifestations.* Clinical experience with Talwin ov dosage has been insufficient to define the signs of this condition.

*Treatment.* Oxygen, intravenous fluids, vasopressors, and ot supportive measures should be employed as indicated. Assisted controlled ventilation should also be considered. Although na phine and levallorphan are *not* effective antidotes for respirat depression due to overdosage or unusual sensitivity to Talwin, p enteral naloxone (Narcan®, available through Endo Laboratories a specific and effective antagonist. If naloxone is not available, p enteral administration of the analeptic, methylphenidate (Ritalin may be of value if respiratory depression occurs.

Talwin is not subject to narcotic controls.

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**the long-range analgesic**

# SOUTH CAROLINA REGIONAL MEDICAL PROGRAM

**Vince Moseley, M.D.**
Coordinator, South Carolina

### Regional Medical Program Assumes Expanded Health Care Mission

The role of the Regional Medical Program in South Carolina is being greatly expanded in efforts involving health manpower development, primarily health care delivery patterns and regionalization of health facilities, manpower and other resources.

The additions to the SCRMP mission were approved by members of the Advisory Group of the S. C. Regional Medical Program during a meeting at Myrtle Beach.

Broadening of SCRMP's efforts in health care delivery represents an expansion of the initial concept of RMP as a vehicle to speed the flow of scientific knowledge to health providers in connection with heart disease, cancer, stroke, and related diseases.

Under the expanded mission SCRMP will share with all health groups, institutions and programs—public and private, the broad overall goals of (1) increasing the availability of care; (2) enhancing its quality and (3) moderating its cost by making the organization of services and delivery care more efficient.

Speakers before the Advisory Group included Dr. Harold Margulies, Director of Regional Medical Programs Service, Washington, D. C.; Robert Toomey of Greenville, a member of the National Review Committee of RMPS; Dr. Vince Moseley, Coordinator for the SCRMP and Dr. Charles P. Summerall, III, SCRMP's Associate Coordinator.

SCRMP operates under the direction of a 72-member Regional Advisory Group which is representative of practicing physicians, dentists, nurses, State Board of Health, professional and volunteer organizations, educational representatives and interested citizens.

Dr. James W. Colbert, Jr., Vice-President for Academic Affairs of the Medical University of S. C., is the current chairman of the Group.

In conjunction with the Myrtle Beach meeting, SCRMP officials pointed out that many of the current RMP programs in South Carolina are now addressing some of the problems described in the expanded health program areas.

The following expanded goals for SCRMP were adopted by the Advisory Group: support planning and organization of community based health education programs; promote and plan for physician assistant training projects; support expanded role of the nurse; coordinate recruitment and placement for new professional categories; evaluate impact and performance of new types of personnel; encourage manpower surveys and recruitment programs; develop health professional career opportunities for minority groups; develop and implement in-service education programs to establish career ladders and to upgrade the performance of existing health personnel.

Also, that a mechanism be established for continuing cooperative regional studies and modification of the obstacles that discourage physicians from entering and remaining active in primary community practice of medicine, obstacles and opportunities that influence primary care roles for nurses and other paramedical personnel and obstacles to ambulatory care imposed by third party payment; encourage use of a recently developed Problem Oriented Medical Record; design systems of public information regarding available health services and personal preventive health measures; support emergency medical services through education programs and demonstra-

tion projects; reduce infant mortality in minority populations, especially through development of prenatal care services and nurse midwifery programs.

Additionally, that shared bioengineering services programs be developed to provide improved safety, reliability and efficiency in hospitals, clinics and practitioners' offices; conduct studies on the development of facilities or programs for economical domiciliary care for the incapacitated, particularly the elderly; determine specialized services that are appropriate, needed and available and through linking of facilities achieve the maximum amount of cooperation among hospitals and institutions.

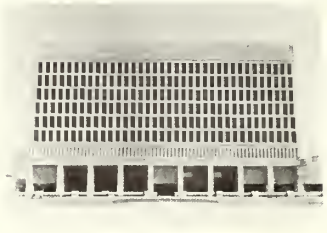
And that SCRMP be prepared to work in cooperation with appropriate professional societies who express an interest in exploring alternative care delivery systems and that SCRMP assist appropriate professional associations in developing programs assuring quality health care.

In other business, the Advisory Group gave approval for a request to be forwarded to Regional Medical Programs Service, Washington for $845,918 in supplemental funds to support a broad manpower development program sponsored by the S. C. Health Education Consortium.

Since the SCRMP was initiated in 1966, 37 projects have received operational funds and eleven are approved pending funding. In addition, SCRMP has supported dozens of workshops, seminars and conferences and engaged in a score of studies and developmental plans to assist with some of the most pressing health-care problems in the State. Over the 6-year period, SCRMP funding has totalled more than $5,700,000.

Nineteen of the original SCRMP projects have become self-supporting. For the period July 1, 1971 to June 30, 1972, SCRMP has 14 operational projects in action and a total award of $1,074,224.

## Moncrief Army Hospital



Opening ceremonies for Moncrief Army Hospital, which will consolidate more than 120 medical units under one roof, were held May 10 in front of the Outpatient Clinic entrance to Fort Jackson's new high-rise landmark.

Built at a cost of $12 million over a three and a half year period, the 12-story hospital will centralize outpatient clinic services and expand care, treatment and surgical facilities.

Serving a military and civilian populace of more than 75,000, the hospital features a post exchange, barber shop, snack bar, 170-seat dining hall, chapel, medical and patient libraries, conference room, 97-seat auditorium, and a closed circuit communications system for broadcasting programmed entertainment and hospital activities.



## THE SOUTH CAROLINA DEPARTMENT OF MENTAL HEALTH

William S. Hall, M.D.
State Commissioner of Mental Health

During the coming months the S. C. Department of Mental Health, its professional and supportive staff, all levels from the governing board down to the unskilled job categories, will be subjected to the very fine microscope of self-appraisal.

With the upcoming construction of the first unit of our Village System and the 150-bed alcohol and drug addictions treatment center, with the use and assignment of responsibility at S. C. State Hospital and Crafts-Farrow State Hospital becoming hazy because of overcrowding, understaffing and underfunding, such an internal study of operation is mandatory.

At the same time, we face increased admissions at all institutions which are already taxed to their limits of space and staff. If we are to believe recent surveys of the National Institute of Mental Health on the increase of cases, we can expect our admissions rates to soar even higher.

Over the years there have been surveys and surveys by this study group and that study group and while the Department has usually faired better than some other governmental units, we still have collected our share of constructive criticism.

We should logically conclude from this that if those unfamiliar with the total scope of our obligation can pinpoint shortcomings, how much more thorough and meaningful will be a study carried out by ourselves — persons totally familiar by virtue of profession, training and experience.

Ours has been a program of crisis intervention rather than crisis prevention for we have been overworked in order to just keep up with the demand for services and there has been virtually no time for reflection, for study, for appraisal and planning for the needs of the future.

As the S. C. Department of Mental Health observes its 150th Anniversary during 1972 and we consider how far we have progressed in these years, it is vital that we project our thinking well into the future. The completeness of our planning today will determine the competency of our treatment programs tomorrow.




**Dr. A. C. Bozard** was honored by the citizens of Manning for his outstanding service. He entered the Medical University in 1929 and has practiced in Manning for 38 years. **Dr. Sydney E. Carter** has completed a residency in internal medicine at the Medical University of South Carolina and is reopening his office in Newberry. Dr. Carter practiced in Newberry from 1963 until 1970 when he returned to the Medical University.

**Dr. Allen R. Slone**, corporate medical director of Sonoco Products in Hartsville, has been elected president of the South Carolina TB-RD Association. **Dr. Lucien E. Brailsford** of Spartanburg was named president-elect. **Dr. John A. Siegling** was honored at the Medical University for his 30-year career teaching orthopedic surgery.

**Dr. Joseph Hodge** of Spartanburg has been reappointed president of the Jefferson Medical College Alumni Association of South Carolina. Dr. Hodge has been practicing general, thoracic, and cardiovascular surgery in Spartanburg since 1958. **Dr. William Hunter** of Clemson has been named to the National Advisory Council on Health Professions Education. He has been in private practice in Clemson for the past 17 years.

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# IN ASTHMA
# IN EMPHYSEMA



*optional therapy*

# THE mudranes®

All Mudranes are bronchodilator-mucolytic in action, and are indicated for symptomatic relief of bronchial asthma, emphysema, bronchiectasis and chronic bronchitis. **MUDRANE tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **Iodide side-effects:** May cause nausea. Very long use may cause goiter. Discontinue if symptoms of iodism develop. **Iodide contraindications:** Tuberculosis; pregnancy (to protect the fetus against possible depression of thyroid activity). **MUDRANE-2 tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline. **Iodide side-effects and contraindications are listed above. MUDRANE GG tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **MUDRANE GG-2 tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions:** Those for aminophylline. **MUDRANE GG Elixir.** Each teaspoonful (5 cc) contains 26 mg. glyceryl guaiacolate; 20 mg. theophylline; 5.4 mg. phenobarbital (Warning: may be habit-forming); 4 mg. ephedrine HCl. **Dosage:** Children, 1 cc for each 10 lbs. of body weight; one teaspoonful (5 cc) for a 50 lb. child. Dose may be repeated 3 or 4 times a day. Adult, one tablespoonful, 4 times daily. All doses should be followed with ½ to full glass of water. **Precautions:** See those listed above for Mudrane GG tablets.

**MUDRANE—original formula**
*First choice*

**MUDRANE-2**
*When ephedrine is too exciting or is contraindicated*

**MUDRANE GG**
*During pregnancy or when K.I. is contraindicated or not tolerated*

**MUDRANE GG-2**
*A counterpart for Mudrane-2*

**MUDRANE GG ELIXIR**
*For pediatric use or where liquids are preferred*

*Clinical specimens available to physicians.*

WILLIAM P. POYTHRESS & COMPANY, INC., RICHMOND, VIRGINIA 23217

*Manufacturers of Ethical Pharmaceuticals*




**Dr. A. C. Bozard** was honored by the citizens of Manning for his outstanding service. He entered the Medical University in 1929 and has practiced in Manning for 38 years. **Dr. Sydney E. Carter** has completed a residency in internal medicine at the Medical University of South Carolina and is reopening his office in Newberry. Dr. Carter practiced in Newberry from 1963 until 1970 when he returned to the Medical University.

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# IN ASTHMA
# IN EMPHYSEMA



*optional therapy*

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**MUDRANE—original formula**
*First choice*

**MUDRANE-2**
*When ephedrine is too exciting or is contraindicated*

**MUDRANE GG**
*During pregnancy or when K.I. is contraindicated or not tolerated*

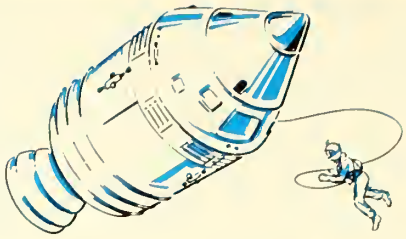
**MUDRANE GG-2**
*A counterpart for Mudrane-2*

**MUDRANE GG ELIXIR**
*For pediatric use or where liquids are preferred*

*Clinical specimens available to physicians.*

WILLIAM P. POYTHRESS & COMPANY, INC., RICHMOND, VIRGINIA 23217

*Manufacturers of Ethical Pharmaceuticals*



*Man in space, now fait accompli, re-emphasizes the importance af Uro-Phosphate therapy. Research into the effect of space travel an the astronaut reveals that weightlessness causes loss af bone calcium. As the bones are required to bear less and less af the weight of the body they lose calcium, increasing the calcium content of the urine. When physical activity is reduced, the acidity of the urine should be adjusted to keep increased calcium in salution . . . . a prophylaxis to prevent kidney or bladder calculi.*

# Uro-Phosphate®

*NOW A SUGAR-COATED TABLET*

*Each tablet contains:* METHENAMINE, *300 mg.;* SODIUM ACID PHOSPHATE, *500 mg.*

Uro-Phosphate gives comfort and protection when inactivity causes discomfort in the urinary function. It keeps calcium in solution, preventing calculi; it maintains clear, acid, sterile urine; it encourages complete voiding and lessens frequency when residual urine is present.

Uro-Phosphate contains sodium acid phosphate, a natural urinary acidifier. This component is fortified with methenamine which is inert until it reaches the acid urinary bladder. In this environment it releases a mild antiseptic keeping the urine sterile.

Uro-Phosphate is safe for continuous use. There are no contra-indications other than acidosis. It can be given in sufficient amount to keep the urine clear, acid and sterile. A heavy sugar coating protects its potency.

**Dosage:**

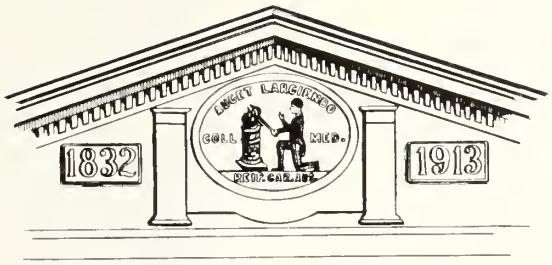
*For pratection of the inactive patient 1 or 2 tablets every 4 ta 6 hours is usually sufficient to keep the urine clear, acid and sterile.*

*2 tablets an retiring will keep residual urine acid and sterile, contributing ta comfort and rest.*

*A clinical supply will be sent to physicians and hospitals on request.*

WILLIAM P. POYTHRESS & COMPANY, INC., RICHMOND, VIRGINIA 23217

*Manufacturers of Ethical Pharmaceuticals*




## Medical University of South Carolina

Alumni Service Awards presented by the Medical University of South Carolina honored **Dr. John M. Pratt** of York and, posthumously, **Dr. Joseph P. Cain, Jr.** of Mullins. Dr. Pratt has served on the Medical University Board of Trnstees since 1947 and Dr. Cain had served from 1959 until his death last year.

**Dr. Charles D. Graber** has been elected to the chairmanship of the Standards and Examination Committee of the American Board of Microbiology. Dr. Graber is associate professor of microbiology and immunology and director of the Clinical Immunology Laboratory at the Medical University.

**Dr. Peter Hairston,** associate professor of thoracic surgery; **Dr. Samuel H. Sandifer,** associate professor of medicine and preventive medicine; and **Dr. Charles P. Summerall,** associate professor of medicine and associate coordinator for heart disease and stroke in the South Carolina Regional Medical Program, have been elected Fellows of the American College of Cardiology.


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We have DISPLAYED at every S. C. State Medical Society Meeting since 1921, and advertised CONTINUOUSLY in the S. C. Journal since January 1920 issue.

## DEATH

### Dr. Barbara Hewell

Dr. Barbara Ann Hewell, 69, a Greenville pediatrician, died on April 14 in a Greenville hospital. Dr. Hewell graduated from Vanderbilt University and interned at Duke University Hospital and Children's Hospital in Cincinnati, where she had the distinetion of being the first woman head resident. She joined the Children's Bureau, State Department of Public Health, and served there until her retirement in 1968.


**What makes a good hearing aid GREAT?**



***The man who does the fitting.***

There are a lot of good hearing aids on the market, but how well you hear with any aid depends to a great degree on the ability of the hearing aid dealer to properly "fit" the correct aid for your individual hearing problem.

The services offered by your MAICO dealer reflect Maico's 30-year record of integrity and experience, willingness to stand behind their product, and the care and thoroughness with which Maico selects and trains dealers to serve the hard of hearing. Your Maico dealer is a good man to know if you have a hearing problem.

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800 Pendleton Street
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232-1007

Young's Hearing Aid Service
511 W. Palmetto Street
Florence, S. C.
662-1211

Melton Hearing Aid Center
326 King Street
Charleston, S. C. 29402
772-1219



**Gantrisin® (sulfisoxazole) Roche® provides your patients with many important advantages:**

- high urinary levels
- generally good tolerance
- high solubility at average urinary pH
- rapid absorption
- rapid renal clearance
- high plasma concentrations
- economy (average cost of therapy: less than 6½¢ per tablet)

**Before prescribing, please consult complete product in mation, a summary of which follows:**

**Indications:** Acute, recurrent or chronic urinary tract fections (primarily cystitis, pyelitis, pyelonephritis) to susceptible organisms (usually *E. coli, Klebsie Aerobacter, Staphylococcus aureus, Proteus mirab* and, less frequently, *Proteus vulgaris*) in the absence obstructive uropathy or foreign bodies.

**IMPORTANT NOTE: *In vitro* sulfonamide sensitivity te are not always reliable. The test must be carefully coo nated with bacteriologic and clinical response. When patient is already taking sulfonamides, follow-up cultu should have aminobenzoic acid added to the culture me**

**Currently, the increasing frequency of resistant organis is a limitation of the usefulness of antibacterial agents cluding the sulfonamides, especially in the treatment chronic and recurrent urinary tract infections.**

Free sulfonamide blood levels should be measured in tients receiving sulfonamides for serious infections si there may be wide variations with identical doses; 20 m 100 ml should be maximum total sulfonamide level, adverse reactions occur more frequently above this le

**Contraindications:** Hypersensitivity to sulfonamides, fants less than 2 months of age (except adjunctively w pyrimethamine in congenital toxoplasmosis), pregna at term, and during the nursing period.

**Warnings:** Safety of sulfonamides in *pregnancy* has been established. Sulfonamides will not eradicate gr A streptococci. Deaths associated with sulfonamide ministration have been reported from hypersensiti reactions, agranulocytosis, aplastic anemia and ot blood dyscrasias. Clinical signs such as sore throat, fe pallor, purpura or jaundice may be early indications serious blood disorders. Complete blood counts urinalyses with careful microscopic examination sh be performed frequently during sulfonamide therapy.

**Precautions:** Use with caution when impaired rena hepatic function, severe allergy or bronchial asthm present. In glucose-6-phosphate dehydrogenase-defici individuals, hemolysis (frequently a dose-related r tion) may occur. Maintain adequate fluid intake to vent crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias:* Agranulocyto aplastic anemia, thrombocytopenia, leukopenia, he lytic anemia, purpura, hypoprothrombinemia, methe globinemia. *Allergic reactions:* Erythema multiforme vens-Johnson syndrome), generalized skin eruptio epidermal necrolysis, urticaria, serum sickness, pruri exfoliative dermatitis, anaphylactoid reactions, perio tal edema, conjunctival and scleral injection, photose tization, arthralgia, allergic myocarditis. *Gastrointest reactions:* Nausea, emesis, abdominal pains, hepat diarrhea, anorexia, pancreatitis, stomatitis. *C.N.S. re tions:* Headache, peripheral neuritis, mental depress convulsions, ataxia, hallucinations, tinnitus, vertigo, somnia. *Miscellaneous reactions:* Drug fever, chills, t nephrosis with oliguria and anuria. Periarteritis nod and L.E. phenomenon have occurred with sulfonam therapy. Sulfonamides bear certain chemical similari to some goitrogens, diuretics and oral hypoglyce agents. Goiter production, diuresis and hypoglyce have occurred rarely in patients receiving sulfonami Cross-sensitivity may exist with these agents.

**Supplied:** Tablets containing 0.5 Gm sulfisoxazole.

ROCHE LABORATORIES
Division of Hoffmann-La Roche
Nutley, N.J. 07110

***acute, recurrent or chronic* nonobstructed cystitis**

# TWO BUILT-IN BENEFITS OF GANTRISIN®

## sulfisoxazole/Roche®

**1.**

**High urinary drug levels**
Gantrisin quickly reaches peak antibacterial concentrations in the urine—usually in 2 to 3 hours. With the recommended dosage regimen, Gantrisin maintains these high urinary levels throughout therapy to combat such susceptible organisms as *E. coli, Klebsiella-Aerobacter, Staphylococcus aureus, Proteus mirabilis* and, less frequently, *Proteus vulgaris.*

**2.**

**Generally good tolerance**
Because of Gantrisin's high solubility and rapid excretion, therapy is relatively free of adverse reactions serious enough to require discontinuance of the drug (3.1% of 1002 patients in a recent study*). Even minor reactions are comparatively infrequent, but may include nausea, headache and vomiting. For other possible undesirable reactions, and precautions, please see summary of prescribing information on opposite page.

*Koch-Weser, J., *et al.*: *Arch. Intern. Med.*, *128* 399, 1971.

**For nonobstructed cystitis**

**begin with**

**Gantrisin®**
**sulfisoxazole/Roche®**



**Usual adult dosage:**
4 to 8 tablets *stat*
2 to 4 tablets *q.i.d.*

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**Experienced Medical Assistant**
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Write or Call:
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PHYSICIAN – INTERNIST OR GENERAL PRACTITIONER NEEDED IMMEDIATELY. 500-BED AFFILIATED GENERAL HOSPITAL LOCATED IN HISTORIC CHARLESTON, S. C. SALARY CONTINGENT UPON QUALIFICATIONS AND PROFESSIONAL ATTAINMENT. EXCELLENT FRINGE BENEFITS. NEW HOSPITAL, EXCELLENT FACILITIES FOR TEACHING AND RESEARCH. FOR FURTHER DETAILS CONTACT CHIEF OF STAFF, VETERANS ADMINISTRATION HOSPITAL, CHARLESTON, S. C. 29403.

**Pre-Sate®**
**(chlorphentermine HCl)**

**CAUTION:** Federal law prohibits dispensing without prescription

**Indications:** Pre-Sate (chlorphentermine hydrochloride) is indicated in exogenous obesity, as a short term (i.e., several weeks) adjunct in a regimen of weight reduction based upon caloric restriction.

**Contraindications:** Glaucoma, hyperthyroidism, pheochromocytoma, hypersensitivity to sympathomimetic amines, and agitated states. Pre-Sate (chlorphentermine hydrochloride) is also contraindicated in patients with a history of drug abuse or symptomatic cardiovascular disease of the following types: advanced arteriosclerosis, severe coronary artery disease, moderate to severe hypertension, or cardiac conduction abnormalities with danger of arrhythmias. The drug is also contraindicated during or within 14 days following administration of monamine oxidase inhibitors, since hypertensive crises may result.

**Warnings:** When weight loss is unsatisfactory the recommended dosage should not be increased in an attempt to obtain increased anorexigenic effect; discontinue the drug. Tolerance to the anorectic effect may develop. Drowsiness or stimulation may occur and may impair ability to engage in potentially hazardous activities such as operating machinery, driving a motor vehicle, or performing tasks requiring precision work or critical judgment. Therefore, such patients should be cautioned accordingly. Caution must be exercised if Pre-Sate (chlorphentermine hydrochloride) is used concomitantly with other central nervous system stimulants. There have been reports of pulmonary hypertension in patients who received related drugs.

**Drug Dependence:** Drugs of this type have a potential for abuse. Patients have been known to increase the intake of drugs of this type to many times the dosages recommended. In long-term controlled studies with high dosages of Pre-Sate, abrupt cessation did not result in symptoms of withdrawal.

**Usage In Pregnancy:** The safety of Pre-Sate (chlorphentermine hydrochloride) in human pregnancy has not yet been clearly established. The use of anorectic agents by women who are or who may become pregnant, and especially those in the first trimester of pregnancy, requires that the potential benefit be weighed against the possible hazard to mother and child. Use of the drug during lactation is not recommended. Mammalian reproductive and teratogenic studies with high multiples of the human dose have been negative.

**Usage In Children:** Not recommended for use in children under 12 years of age.

**Precautions:** In patients with diabetes mellitus there may be alteration of insulin requirements due to dietary restrictions and weight loss. Pre-Sate (chlorphentermine hydrochloride) should be used with caution when obesity complicates the management of patients with mild to moderate cardiovascular disease or diabetes mellitus, and only when dietary restriction alone has been unsuccessful in achieving desired weight reduction. In prescribing this drug for obese patients in whom it is undesirable to introduce CNS stimulation or pressor effect, the physician should be alert to the individual who may be overly sensitive to this drug. Psychologic disturbances have been reported in patients who concomitantly receive an anorexic agent and a restrictive dietary regimen.

**Adverse Reactions: Central Nervous System:** When CNS side effects occur, they are most often manifested as drowsiness or sedation or overstimulation and restlessness. Insomnia, dizziness, headache, euphoria, dysphoria, and tremor may also occur. Psychotic episodes, although rare, have been noted even at recommended doses. **Cardiovascular:** tachycardia, palpitation, elevation of blood pressure. **Gastrointestinal:** nausea and vomiting, diarrhea, unpleasant taste, constipation. **Endocrine:** changes in libido, impotence. **Autonomic:** dryness of mouth, sweating, mydriasis. **Allergic:** urticaria. **Genitourinary:** diuresis and, rarely, difficulty in initiating micturition. **Others:** Paresthesias, sural spasms.

**Dosage and Administration:** The recommended adult daily dose of Pre-Sate (chlorphentermine hydrochloride) is one tablet (equivalent to 65 mg chlorphentermine base) taken after the first meal of the day. Use in children under 12 not recommended.

**Overdosage: Manifestations:** Restlessness, confusion, assaultiveness, hallucinations, panic states, and hyperpyrexia may be manifestations of acute intoxication with anorectic agents. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension, or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Fatal poisoning usually terminates in convulsions and coma.

**Management:** Management of acute intoxication with sympathomimetic amines is largely symptomatic and supportive and often includes sedation with a barbiturate. If hypertension is marked, the use of a nitrate or rapidly acting alpha-receptor blocking agent should be considered. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendations in this regard.

**How Supplied:** Each Pre-Sate (chlorphentermine hydrochloride) tablet contains the equivalent of 65 mg chlorphentermine base; bottles of 100 and 1000 tablets.

**Full information available on request.**




**WARNER-CHILCOTT**
Division, Warner-Lambert Company
Morris Plains, New Jersey 07950

# for the practical generation

# Pre-Sate®

## (chlorphentermine HCl)



## the trend is toward our kind of anorectic

**Not a controlled drug under the Comprehensive Drug Abuse Prevention and Control Act**

- low potential for abuse
- less CNS stimulation than with d-amphetamine or phenmetrazine

**Effective anorectic adjunct to your program of caloric restriction and diet re-education**

- weight loss comparable to d-amphetamine and phenmetrazine, superior to placebo
- convenient one-a-day dosage

GP-21-B/W

**Pre-Sate®** (chlorphentermine HCl)...the increasingly practical appetite suppressant



# When you select this familiar antibiotic for IV infusion you have available a broad dosage range that hospitalized patients may need.

Intravenous Lincocin (lincomycin hydrochloride, Upjohn), with its 1.2 to 8 grams/day dosage range, covers many serious and even life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. Lincocin IV therefore can be as useful in your hospitalized patients as its IM use has proved to be in your office patients. As with all antibiotics, *in vitro* susceptibility studies should be performed.

**1.2 to 8 grams/day IV dosage range:** Most hospitalized patients with uncomplicated pneumonias respond satisfactorily to 1.2 to 1.8 grams/day of Lincocin IV. These doses may have to be increased for more serious infections. In life-threatening situations as much as 8 grams/day has been administered intravenously to adults.

In usual IV doses, Lincocin (lincomycin hydrochloride, Upjohn) should be diluted in 250 ml or more of normal saline solution or 5% glucose in water. But when 4 grams or more per day is given, Lincocin should be diluted in no less than 500 ml of either solution, and the rate of administration should not exceed 100 ml/hour. Too rapid intravenous administration of doses exceeding 4 grams may result in hypotension or, in rare instances, cardiopulmonary arrest.

**Effective gram-positive antibiotic:** Lincocin IV is effective in respiratory tract, skin and soft-tissue, and bone

infections caused by susceptible strains of pneumococci, streptococci, and staphylococci, including penicillin-resistant strains. Staphylococcal strains resistant to Lincocin (lincomycin hydrochloride, Upjohn) have been recovered. Before initiating therapy, culture and susceptibility studies should be performed. Lincocin has proved valuable in treating patients hypersensitive to penicillin or cephalosporins, since Lincocin does not share antigenicity with these compounds. However, hypersensitivity reactions have been reported, some of these in patients known to be sensitive to penicillin.

**Well tolerated at infusion site:** Lincocin intravenous infusions have not produced local irritation or phlebitis, when given as recommended. Lincocin is usually well tolerated in patients who are hypersensitive to other drugs. Nevertheless, Lincocin should be used cautiously in patients with asthma or significant allergies.

In patients with impaired renal function, the recommended dose of Lincocin should be reduced to 25—30% of the dose for patients with normal kidney function. Its safety in pregnant patients and in infants less than one month of age has not been established.

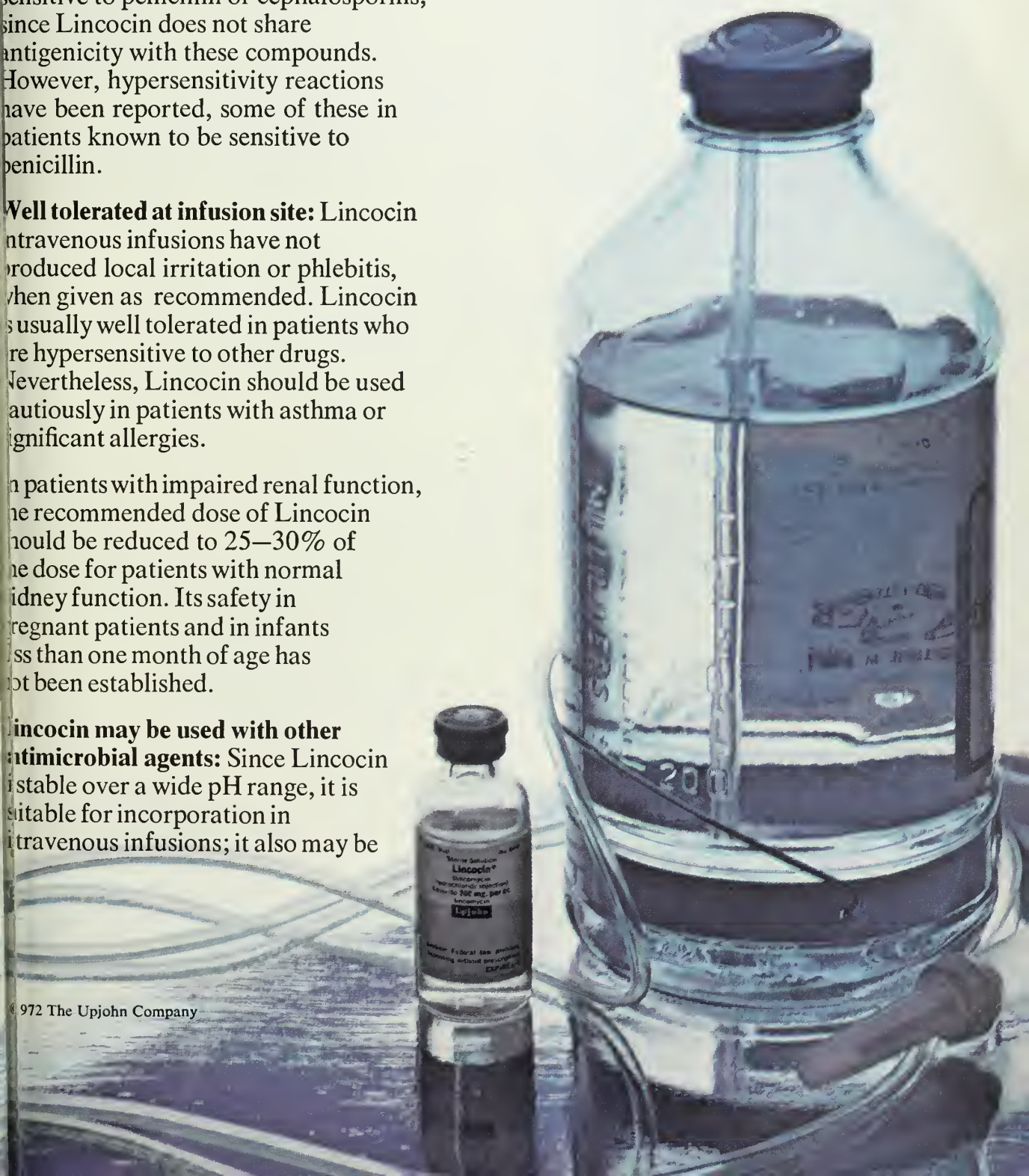
**Lincocin may be used with other antimicrobial agents:** Since Lincocin is stable over a wide pH range, it is suitable for incorporation in intravenous infusions; it also may be administered concomitantly with other antimicrobial agents when indicated. However, Lincocin should not be used with erythromycin, as *in vitro* antagonism has been reported.

# Lincocin®

Sterile Solution (300 mg per ml)

## (lincomycin hydrochloride, Upjohn)

For further prescribing information, please see following page.




© 1972 The Upjohn Company



Sterile Solution (300 mg. per ml.)

# Lincocin®

# (lincomycin hydrochloride, Upjohn)

## Up to 8 grams per day by IV infusion for hospitalized patients with life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. As with all antibiotics, *in vitro* susceptibility studies should be performed.

| Each preparation contains: | Lincomycin hydrochloride monohydrate equivalent to lincomycin base |
|---|---|
| 250 mg Pediatric Capsule | 250 mg |
| 500 mg Capsule | 500 mg |
| *Sterile Solution per 1 ml | 300 mg |
| Syrup per 5 ml | 250 mg |

*Contains also: Benzyl Alcohol 9 mg; and, Water for Injection—q.s.

Lincocin (lincomycin hydrochloride) is indicated in infections due to susceptible strains of staphylococci, pneumococci, and streptococci. *In vitro* susceptibility studies should be performed. Cross resistance has not been demonstrated with penicillin, ampicillin, cephalosporins, chloramphenicol or the tetracyclines. Some cross resistance with erythromycin has been reported. Studies indicate that Lincocin does not share antigenicity with penicillin compounds.

CONTRAINDICATIONS: History of prior hypersensitivity to lincomycin or clindamycin. Not indicated in the treatment of viral or minor bacterial infections.

WARNINGS: *CASES OF SEVERE AND PERSISTENT DIARRHEA HAVE BEEN REPORTED AND HAVE AT TIMES NECESSITATED DISCONTINUANCE OF THE DRUG. THIS DIARRHEA HAS BEEN OCCASIONALLY ASSOCIATED WITH BLOOD AND MUCUS IN THE STOOLS AND HAS AT TIMES RESULTED IN AN ACUTE COLITIS. THIS SIDE EFFECT USUALLY HAS BEEN ASSOCIATED WITH THE ORAL DOSAGE FORM BUT OCCASIONALLY HAS BEEN REPORTED FOLLOWING PARENTERAL THERAPY.* A careful inquiry should be made concerning previous sensitivities to drugs or other allergens. Safety for use in pregnancy has not been established and Lincocin (lincomycin hydrochloride) is not indicated in the newborn. Reduce dose 25 to 30% in patients with severe impairment of renal function.

PRECAUTIONS: Like any drug, Lincocin should be used with caution in patients having a history of asthma or significant allergies. Overgrowth of nonsusceptible organisms, particularly yeasts, may occur and require appropriate measures. Patients with pre-existing monilial infections requiring Lincocin therapy should be given concomitant antimonilial treatment. During prolonged Lincocin therapy, periodic liver function studies and blood counts should be performed. Not recommended (inadequate data) in patients with pre-existing liver disease unless special clinical circumstances indicate. Continue treatment of β-hemolytic streptococci infections for 10 days to diminish likelihood of rheumatic fever or glomerulonephritis.

ADVERSE REACTIONS: *Gastrointestinal*—Glossitis, stomatitis, nausea, vomiting. Persistent diarrhea, enterocolitis, and pruritus ani. *Hemopoietic*—Neutropenia, leukopenia, agranulocytosis, and thrombocytopenic purpura have been reported. *Hypersensitivity reactions*—Hypersensitivity reactions such as angioneurotic edema, serum sickness, and anaphylaxis have been reported, sometimes in patients sensitive to penicillin. If allergic reaction occurs, discontinue drug. Have epinephrine, corticosteroids, and antihistamines available for emergency treatme
*Skin and mucous membranes*—Skin rash urticaria, vaginitis, and rare instances of foliative and vesiculobullous dermatitis ha been reported. *Liver*—Although no direct lationship to liver dysfunction is establish jaundice and abnormal liver function te (particularly serum transaminase) have b observed in a few instances. *Cardiovascu*—Instances of hypotension following par teral administration have been report particularly after too rapid IV administ tion. Rare instances of cardiopulmonary rest have been reported after too rapid administration. If 4.0 grams or more adm istered IV, dilute in 500 ml of fluid administer no faster than 100 ml per hc *Special senses*—Tinnitus and vertigo h been reported occasionally. *Local reacti*—Excellent local tolerance demonstrate intramuscularly administered Linco (lincomycin hydrochloride). Reports of p following injection have been infrequ Intravenous administration of Lincocin 250 to 500 ml of 5% glucose in dist water or normal saline has produced local irritation or phlebitis.

HOW SUPPLIED: *250 mg* and *500* Capsules—bottles of 24 and 100. *Ste Solution, 300 mg per ml*—2 and 10 ml v and 2 ml syringe. *Syrup, 250 mg per 5* —60 ml and pint bottles.

*For additional product information, con the package insert or see your Upj representative.*

MED B-6-S (KZL-7) JA71-1

The Upjohn Company
Kalamazoo, Michigan 49001

Upjoh

**Prompt relief of pain is a lot of what the practice of medicine is all about... East or West.**

In much of the Far East, the analgesic efficacy of Empirin® Compound with Codeine would probably be measured against acupuncture, an ancient and traditional therapeutic system.

In America, codeine sets such a high standard for oral analgesia, that it has become a criterion in terms of which other major oral analgesics are most often measured.

Synthetic and other oral analgesics may offer some of the properties of codeine, but not one can provide both its benefits and potency. And codeine provides an antitussive bonus.

Empirin Compound with Codeine is the most widely used, and probably the most pharmaceutically elegant analgesic preparation providing codeine. It's the time-tested combination for predictable pain relief . . . whether the pain is visceral or musculoskeletal; acute or chronic.



**New prescription flexibility.** At your discretion, and where state law permits, a prescription for Empirin Compound with Codeine may now be refilled up to five times in six months.

*Empirin Compound with Codeine No. 3 contains codeine phosphate* (32.4 mg.) gr. ½. No. 4 contains codeine phosphate* (64.8 mg.) gr. 1. *(Warning—may be habit-forming.) Each tablet also contains: aspirin gr. 3½, phenacetin gr. 2½, caffeine gr. ½. Bottles of 100 and 1000.*



But for relief of Western pain

# EMPIRIN® COMPOUND C CODEINE

Burroughs Wellcome Co., Research Triangle Park, North Carolina 27709

When irritable colon feels like this



# ..in the presence of spasm or hypermotility, gas distension and discomfort, **KINESED®** provides more complete relief:

- ☐ **belladonna alkaloids—for the hyperactive bowel**
- ☐ **simethicone—for accompanying distension and pain due to gas**
- ☐ **phenobarbital—for associated anxiety and tension**

**Composition:** Each chewable, fruit-flavored, scored tablet contains: 16 mg. phenobarbital (warning: may be habit-forming); 0.1 mg. hyoscyamine sulfate; 0.02 mg. atropine sulfate; 0.007 mg. scopolamine hydrobromide; 40 mg. simethicone.
**Contraindications:** Hypersensitivity to barbiturates or belladonna alkaloids, glaucoma, advanced renal or hepatic disease.
**Precautions:** Administer with caution to patients with incipient glaucoma, bladder neck obstruction or urinary bladder atony. Prolonged use of barbiturates may be habit-forming.
**Side effects:** Blurred vision, dry mouth, dysuria, and other atropine-like side effects may occur at high doses, but are only rarely noted at recommended dosages.
**Dosage:** Adults: One or two tablets three or four times daily. Dosage can be adjusted depending on diagnosis and severity of symptoms. Children 2 to 12 years: One half or one tablet three or four times daily. Tablets may be chewed or swallowed with liquids.

**STUART PHARMACEUTICALS** | Pasadena, California 91109 | Division of ATLAS CHEMICAL INDUSTRIES, INC.

(from the Greek **kinetikos,**
to move,
and the Latin **sedatus,**
to calm)

# KINESED®

antispasmodic/sedative/antiflatulent


What's on your patient's face...
may be more important than his chief complaint

# The lesions on his face may be solar/actinic — so-called "senile" keratoses...and they may be premalignant.

## Solar, actinic or senile keratoses

These lesions may be called by several names, but they usually can be identified by the following characteristics: the typical lesion is flat or slightly elevated, of a brownish or reddish color, papular, dry, rough, adherent, and sharply defined. They commonly occur as multiple lesions, chiefly on the exposed portions of the skin.



*Patient P.T.* seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electrosurgical procedures.*

## Sequence of therapy/ selectivity of response

After several days of therapy with Efudex® (fluorouracil), erythema may begin to appear in the area of the lesions; the reaction usually reaches its height of unsightliness and discomfort within two weeks, declining after discontinuation of therapy. This reaction occurs in affected areas. Since the response is so predictable, lesions that do not respond should be biopsied.

## Acceptable results

Treatment with Efudex provides highly favorable cosmetic results. Incidence of scarring is low. This is particularly important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.



*Patient P.T.* seen on 6/12/67, seven weeks after discontinuation of 5%-FU cream. Reaction has subsided. Residual scarring not seen except for that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.*

*Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Multiple actinic or solar keratoses.

**Contraindications:** Patients with known hypersensitivity to any of its components.

**Warnings:** If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

**Precautions:** If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

**Adverse Reactions:** Local — pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported — insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

**Dosage and Administration:** Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

**How Supplied:** Solution, 10-ml drop dispensers — containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes — containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

## This patient's lesions were resolved with

# Efudex® (fluorouracil)

## 5% cream/solution ...a Roche exclusive

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

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### Failure of Vasectomy Results In Unwanted Child

A patient who fathered a child after undergoing a vasectomy was entitled to recover the costs of a second vasectomy and the associated pain and suffering, according to an Ohio trial court. The jury awarded the patient $7,500, which included the costs of raising a normal child.

The patient had married a woman who was 39 years of age. She was not in the best of health, having been subjected to two prior major abdominal surgical interventions. Both parties had agreed that they should not have any children. The husband, therefore, underwent a vasectomy. He was not instructed by the physician to return for a test to determine his fertility status. Shortly after the vasectomy, the patient's wife underwent another major abdominal operation.

Some months after the vasectomy, the patient's wife became pregnant. A urologist determined that the patient was still fertile. The wife became increasingly ill during the pregnancy. On January 8, 1970, it became necessary to perform exploratory surgery of her liver. On January 14, 1970, she gave birth to a normal baby boy of eight months' gestation. On January 15, 1970, it was determined that the wife had lupus erythematosus, and on January 18, 1970, she expired.

Suit was brought on behalf of the husband for the costs of a second vasectomy and the associated pain and suffering and the costs of raising an unwanted child. A second suit was brought on behalf of the estate of the wife for wrongful death and conscious pain and suffering.

At the trial, various treating physicians were called on behalf of the husband and the estate of the wife. The physician who was sued produced no witnesses but relied on the cross-examination of all witnesses. The jury returned a verdict for the husband but denied recovery in the suit brought on behalf of the wife's estate.—*Deck v. Payne* (Ohio, Ct. of Common Pleas, Case nos. 20730 and 70-1826. Oct. 15, 1971)

# 140/90 is normal blood pressure...or is it?

## An extensive study based on nearly 4 million life insurance policies suggests that a blood pressure reading of 140/90 requires close medical supervision.

**Study Findings.** Twelve years ago the Society of Actuaries reported on an extensive study based on the lives and deaths represented by almost 4 million life insurance policies. From this vast survey—"The Build and Blood Pressure Study"[1]—insurance experts concluded that:

- Blood pressure above 140/90 is accompanied by increased morbidity and requires close medical attention.
- Even small increments in either systolic or diastolic blood pressure progressively and steeply shorten life expectancy.

**Other Studies.** Studies conducted with large numbers of patients since that time have echoed the above findings. Two studies published in 1970—the VA Cooperative Study Group on "Effects of Treatment on Morbidity in Hypertension"[2] and the "Framingham Study"[3]—suggest that treatment of even mild hypertension may, over time, offer significant benefits to the patient.

**Another Point of View.** Although a growing body of studies suggests that treatment of mild hypertension is warranted, medical opinion is not unanimous. Some clinicians recommend that drug treatment for mild hypertension be reserved for patients with additional risk factors such as smoking, high cholesterol levels, heart or kidney involvement, or a family history of vascular disease. Dr. Walter M. Kirkendall stated this position in his recent paper "What's With Hypertension These Days?"[4] Discussing the management of hypertension in patients with a sustained diastolic pressure up to 100 mm Hg, he said: "Generally, I do not recommend antihypertensive therapy unless patient's blood pressure approaches the upper limit for the group and a number of adverse factors exist, such as male sex, family history of vascular disease, youth, evidence of heart or kidney involvement."




**Drug Therapy for Hypertension.** Although opinion varies on when to start drug therapy for mild hypertension, many physicians agree that treatment should start with a thiazide diuretic such as HydroDIURIL. For the adult patient, the usual starting dosage is 50 mg b.i.d. Dosage adjustments are recommended as the patient responds to treatment. The patient whose therapy begins with HydroDIURIL frequently can continue to benefit from it, because HydroDIURIL usually maintains its antihypertensive effect even when therapy is prolonged.

MSD
MERCK SHARP & DOHME

25- and 50-mg tablets

# HydroDIURIL®

(Hydrochlorothiazide|MSD)

Therapy to Start With

For a brief summary of prescribing information, please see next page.

1. Society of Actuaries, *The Build and Blood Pressure Study*, 1959.
2. Veterans Administration Cooperative Study Group on Antihypertensive Agents, "Effects of Treatment on Morbidity in Hypertension," JAMA *213*:1143-1152, Aug. 17, 1970.
3. Kannel, William B., *et al*.: "Epidemiologic Assessment of the Role of Blood Pressure in Stroke—The Framingham Study," JAMA *214*:301-310, Oct. 12, 1970.
4. Kirkendall, Walter M.: "What's With Hypertension These Days?" Consultant, Jan. 1971.

25- and 50-mg tablets

# HydroDIURIL®

## (Hydrochlorothiazide|MSD)

## Therapy to Start With

**Drug Therapy for Hypertension.** Although opinion varies on when to start drug therapy for mild hypertension, many physicians agree that treatment should start with a thiazide diuretic such as HydroDIURIL. For the adult patient, the usual starting dosage is 50 mg b.i.d. Dosage adjustments are recommended as the patient responds to treatment. The patient whose therapy begins with HydroDIURIL frequently can continue to benefit from it, because HydroDIURIL usually maintains its antihypertensive effect even when therapy is prolonged.

**CONTRAINDICATIONS:** Anuria; increasing azotemia and oliguria during treatment of severe progressive renal disease. Known sensitivity to this compound. Nursing mothers; if use of drug is deemed essential, patient should stop nursing.

**WARNINGS:** May precipitate or increase azotemia. Use special caution in impaired renal function to avoid cumulative or toxic effects. Minor alterations of fluid and electrolyte balance may precipitate coma in hepatic cirrhosis.

When used with other antihypertensive drugs, careful observation for changes in blood pressure must be made, especially during initial therapy. Dosage of other antihypertensive agents, especially ganglion blockers, must be reduced by at least 50% because HydroDIURIL potentiates their action.

Stenosis and ulceration of the small bowel causing obstruction, hemorrhage, and perforation have been reported with the use of enteric-coated potassium tablets, either alone or with nonenteric-coated thiazides. Surgery was frequently required, and deaths have occurred. Such formulations should be used only when indicated and when dietary supplementation is impractical. Discontinue immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occurs.

Thiazides cross placenta and appear in cord blood. In women of childbearing age, potential benefits must be weighed against possible hazards to fetus, such as fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult.

The possibility of sensitivity reactions should be considered in patients with a history of allergy or bronchial asthma. The possibility of exacerbation or activation of systemic lupus erythematosus has been reported for sulfonamide derivatives, including thiazides.

**PRECAUTIONS:** Check for signs of fluid and electrolyte imbalance, particularly if vomiting is excessive or patient is receiving parenteral fluids. Warning signs, irrespective of cause, are dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances. Hypokalemia may develop (especially with brisk diuresis) in severe cirrhosis; with concomitant steroid or ACTH therapy; or with inadequate electrolyte intake. Digitalis therapy may exaggerate metabolic effects of hypokalemia, especially with reference to myocardial activity. Hypokalemia may be avoided c treated by use of potassium chloride or giving food with a high potassium content. Similarly, any chlorid deficit may be corrected by use of ammonium chlorid (except in patients with hepatic disease) and largel prevented by a near normal salt intake. Hypochloremi alkalosis occurs infrequently and is rarely severe. I severely edematous patients with congestive failure c renal disease, a low salt syndrome may occur if dietar salt is unduly restricted, especially during hot weathe

Thiazides may increase responsiveness to tubocu rarine. The antihypertensive effect of the drug may b enhanced in the postsympathectomy patient. Arteri responsiveness to norepinephrine is decreased, neces sitating care in surgical patients. Discontinue drug 4 hours before elective surgery. Orthostatic hypotensio may occur and may be potentiated by alcohol, barbi urates, or narcotics.

Pathological changes in the parathyroid glands wit hypercalcemia and hypophosphatemia have been see in a few patients on prolonged thiazide therapy. Th effect of discontinuing thiazide therapy on serum ca cium and phosphorus levels may be helpful in asses ing the need for parathyroid surgery in such patient Parathyroidectomy has elicited subjective clinical im provement in most patients, but has no effect o hypertension. Thiazide therapy may be resumed aft surgery.

Use cautiously in hyperuricemic or gouty patient gout may be precipitated. May affect insulin requir ments in diabetics; may induce hyperglycemia an glycosuria in latent diabetics.

**ADVERSE REACTIONS:** Rare reactions includ thrombocytopenia, leukopenia, agranulocytosis, apla tic anemia, cholestasis, and pericholangiolitic hepatiti Nausea, vomiting, diarrhea, dizziness, vertigo, pare thesias, transient blurred vision, sialadenitis, purpur rash, urticaria, photosensitivity, or other hypersens tivity reactions may occur. Cutaneous vasculitis pr cipitated by thiazide diuretics has been reported elderly patients on repeated and continuing exposu to several drugs. Scattered reports have linke thiazides to pancreatitis, xanthopsia, neonatal thror bocytopenia, and neonatal jaundice. When adver reactions are moderate or severe, the dosage thiazides should be reduced or therapy withdraw

*For more detailed information, consult your MSD Representative or see the Direction Circular. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486*

MSD
MERCK SHARP DOHME

# Predictable. Economical. Well-tolerated.




If that's old-fashioned
why not make the most of it?

## Butisol SODIUM®
(SODIUM BUTABARBITAL)

Tablets 15 mg., 30 mg.
Elixir 30 mg./5 cc. (alcohol 7%)

**Indications:** Useful as a daytime sedative when mild sedation is required for relief of symptoms of anxiety or tension resulting from emotional, physical, or situational stress.
**Contraindications:** Porphyria or sensitivity to barbiturates. **Warning:** May be habit forming
**Precautions:** Exercise caution in moderate to severe hepatic disease. Elderly or debilitated patients may react with marked excitement or depression. **Adverse Reactions:** Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and systemic disturbances are seldom seen.
**Usual Adult Dosage:** For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d.
**Also available:** BUTICAPS® [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg.,

McNeil Laboratories, Inc., Fort Washington, Pa 19034

McNEIL

# Librium®
# (chlordiazepoxide HCl)
# and safety

Librium (chlordiazepoxide HCl), after more than a decade of wide clinical use, continues to reflect a wide margin of safety. In general use, the most common side effects reported have been drowsiness, ataxia and confusion, particularly in the elderly and debilitated.

**Antianxiety effectiveness:** Demonstrated in a broad range of psychologic and physical dysfunctions; indicated when reassurance and counseling are not enough and until, in the physician's judgment, anxiety has been reduced to tolerable, appropriate levels.

**Effect on mental acuity:** Usually minimal on proper maintenance dosage. (See Warnings in summary of prescribing information.)

**Concomitant use:** Is used as adjunctive antianxiety therapy concomitantly with certain specific medications of other classes of drugs, such as cardiac glycosides, antihypertensive agents, diuretics and vasodilators.

**in relief of clinically significant anxiety**

**Librium®**
**(chlordiazepoxide HCl)**

**5-mg, 10-mg, 25-mg capsules**
**up to 100 mg daily in severe anxiety**

**Before prescribing, please consult complete product information, a summary of which follows:**
**Indications:** Indicated when anxiety, tension and apprehension are significant components of the clinical profile.
**Contraindications:** Patients with known hypersensitivity to the drug.
**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.
**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.
**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased or decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.
**Supplied:** Librium capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.

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Nutley, N.J. 07110

# The Journal of The SOUTH CAROLINA Medical Association



CYSTIC FIBROSIS

INTESTINAL PARASITES

JOHN ARTHUR SIEGLING, M.D.

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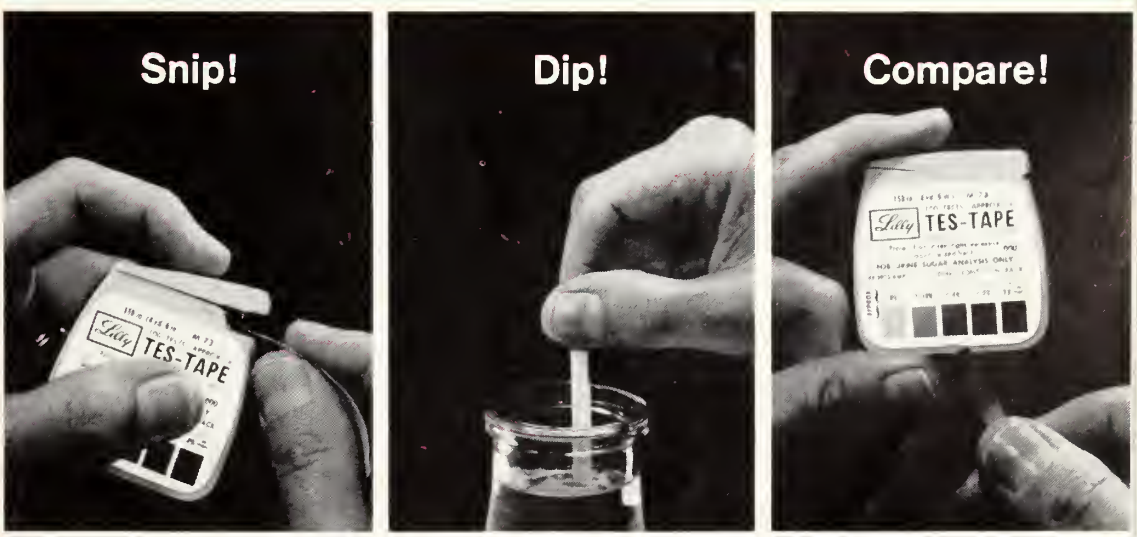


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VOLUME 68 JULY, 1972 NUMBER 7






**Simple, accurate test for glycosuria**

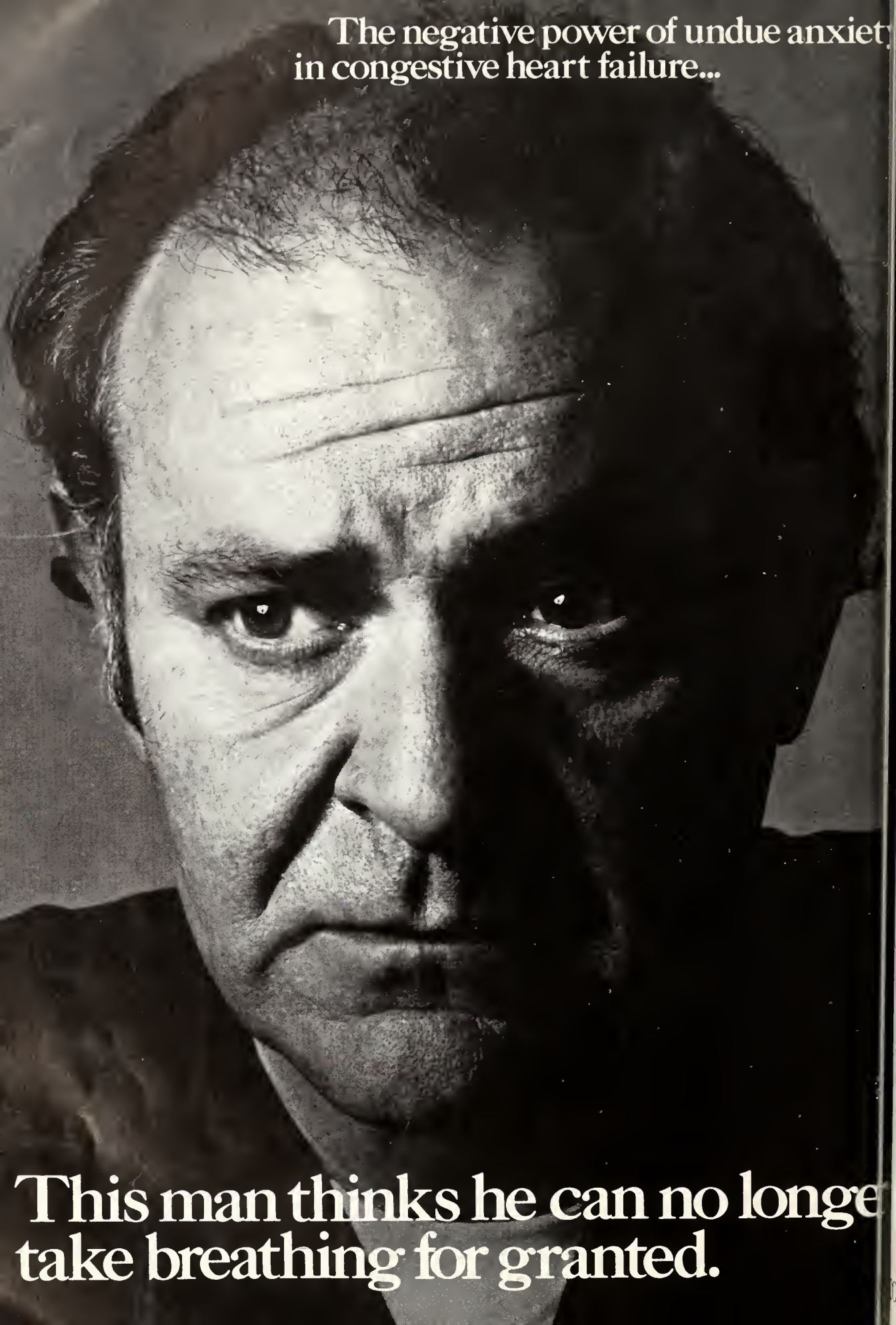
**TES-TAPE®**
URINE SUGAR ANALYSIS PAPER

Lilly

Leadership in Diabetes Research for Half a Century

*Additional information available upon request.* Eli Lilly and Company, Indianapolis, Indiana 46206

100133


The negative power of undue anxiet
in congestive heart failure...
This man thinks he can no longe
take breathing for granted.

**Typical of many patients with congestive heart failure, he also suffers from severe anxiety, a psychic factor that may influence the character and degree of his symptoms, such as dyspnea. His apprehension may also deprive him of the emotional calm so important in maintenance therapy.**

*Aid in rehabilitation*

Specific medical and environmental measures are often enhanced by the antianxiety action of adjunctive Libritabs (chlordiazepoxide). Libritabs can also facilitate treatment of the tense convalescent patient until antianxiety therapy is no longer required. Whereas in geriatrics the *usual daily dosage* is 5 mg two to four times daily, the *initial dosage* in elderly and debilitated patients should be limited to 10 mg or less per day, adjusting as needed and tolerated.

*Concomitant use with primary agents*

Libritabs is used concomitantly with certain specific medications of other classes of drugs, such as cardiac glycosides, diuretics, antihypertensives, vasodilators and oral anticoagulants, whenever excessive anxiety or emotional tension adversely affects the clinical condition or response to therapy. Although clinical studies have not established a cause and effect relationship, physicians should be aware that variable effects on blood coagulation have been reported very rarely in patients receiving oral anticoagulants and chlordiazepoxide HCl.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Indicated when anxiety, tension and apprehension are significant components of the clinical profile.

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

**Supplied:** Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.

MAE FRANCIS A. COUN
LIBRARY OF MEDICINE
BOSTON
10 AUG 1972

# The positive power of Libritabs®

## (chlordiazepoxide)

5-mg, 10-mg, 25-mg tablets

## t.i.d./q.i.d.

up to 100 mg daily

## for severe anxiety accompanying congestive heart failure

ROCHE
Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

# When you prescribed Orinase®

## (tolbutamide, Upjohn)

# 14 years ago, you had to rely on our experience.

An orally active hypoglycemic agent principally indicated in relatively mild, adult, maturity-onset, non-ketotic diabetes; also, as a supplement to insulin therapy in selected diabetic patients, it may effect a stabilization of labile diabetes and reduce insulin requirements. Certain patients intolerant to chlorpropamide therapy at usual therapeutic doses have subsequently been successfully managed with Orinase (tolbutamide).

Use in mild asymptomatic diabetic patients with abnormal glucose tolerance tests not responding to diet therapy may result in improvement of the glucose tolerance test.

Use in conjunction with phenformin is indicated when optimal control is not obtained with Orinase or phenformin alone.

**Contraindications:** Orinase alone is not effective in juvenile or growth-onset diabetes nor in unstable brittle diabetes where insulin therapy is required.

Orinase should not be used: when diabetes is complicated by acidosis, ketosis, or coma, or when a history of repeated bouts of acidosis or coma is obtained; in the presence of other acute complications such as fever, severe trauma, or infections; and in patients with severe renal insufficiency. Insulin is indicated in these circumstances.

**Pregnancy Warning**: The safety and usefulness of Orinase during pregnancy has not been established either from the standpoint of the mother or the fetus. Animal studies have demonstrated feticidal and teratogenic effects of doses of 1,000-2,500 mg./kg./day, but application to human subjects unknown. Therefore, Orinase is not recommended for the pregnant diabetic, and when administering Orinase to women of childbearing age, these facts should be borne in mind.

**Precautions:** Diagnostic and therapeutic measures necessa for optimal control with insulin are also necessary with Orina The patient on Orinase must be fully instructed: about t nature of his disease; how to prevent and detect complicatio how to control his condition; not to neglect dietary restrictio develop a careless attitude or disregard instructions relative body weight, exercise, personal hygiene, and avoidance of fection; how to recognize and counteract impending hypog cemia; how and when to test for glycosuria and ketonuria; h to use insulin; and to report to the physician immediately if does not feel as well as usual.

Caution, very close observation, and careful adjustment dose are necessary when: insulin is withdrawn during the t period in order to avoid ketosis, acidosis, and coma; thiaz diuretics are administered which may result in aggravation diabetic state and increased tolbutamide requirement, tem rary loss of control, or even secondary failure; treating patie with impaired hepatic and/or renal function and debilitated, n nourished, or semistarved patients in order to avoid severe hy glycemia which may require corrective therapy over seve days; and treating patients with severe trauma, infection, or s gical procedures where temporary return to insulin or addi of insulin may be necessary. Response to tolbutamide is din ished in patients receiving therapy with beta blocking age

As some diabetics are not suitable candidates, it is esser that the physician familiarize himself with the indications, li of application, and selection of patients for therapy.

Patients must be under continuous medical supervision, during the initial test period should communicate with the ph

# Today you have your own.

If you're around 40 or 45, you've ɔbably had quite a bit of clinical experience th Orinase.

Maybe as much as 14 years.

And that means you know quite a about it.

On the one hand, you know that diet l weight control are the initial and essential ndations for the management of adult-set, non-ketotic diabetes. When these asures prove satisfactory, no additional rapy is indicated. On the other hand, you ow that if these measures fail the addition of Orinase to the regimen can often help lower blood sugar. Orinase lowers blood sugar as effectively today as it did when you first prescribed it.

You also know the importance of close monitoring of the patient. Although uncommon, severe hypoglycemia may occur if the dosage is not tailored to suit his requirements.

In short, Orinase is a drug you're familiar with, and probably have confidence in.

And that may be the best recommendation Orinase can have.

## Orinase®

0.5 g. tablets

(tolbutamide, Upjohn)

n daily, and during the first month report at least once weekly physical examination and definitive evaluation. After a month, aminations are recommended monthly or as indicated. Appearance of ketonuria, increase in glycosuria, unsatisfactory ering or persistent elevation of blood sugar, or failure to tain and hold clinical improvement indicate nonresponsiveness to Orinase (tolbutamide). Orinase does not obviate need for intaining standard diet regulation. Uncooperative patients uld be considered unsuitable for therapy. Prescriptions should refilled only on specific instruction of physician. In treating d asymptomatic diabetic patients with abnormal glucose erance, glucose tolerance tests should be obtained at three- six-month intervals. Orinase is not an oral insulin or a substite for insulin and must not be used as sole therapy in juvenile betes or in diabetes complicated by acidosis or coma where ulin is indispensable.

f phenformin is prescribed in combination with Orinase, appriate package literature should be consulted.

**Adverse Reactions:** Severe hypoglycemia, though uncommon, y occur and may mimic acute neurologic disorders such as rebral thrombosis. Certain factors such as hepatic and renal ease, malnutrition, advanced age, alcohol ingestion, and renal and pituitary insufficiency may predispose to hypoglymia and certain drugs such as insulin, phenformin, sulfonides, oxyphenbutazone, salicylates, probenecid, monamine dase inhibitors, phenylbutazone, bishydroxycoumarin, and enyramidol may prolong or enhance the action of Orinase and rease risk of hypoglycemia. Orinase long-term therapy has en reported to cause reduction in RAI uptake without producing clinical hypothyroidism or thyroid enlargement and at high doses is mildly goitrogenic in animals. Photosensitivity reactions, disulfiram-like reactions after alcohol ingestion, and false-positive tests for urine albumin have been reported.

Although usually not serious, gastrointestinal disturbances (nausea, epigastric fullness, and heartburn) and headache appear to be dose related and frequently disappear with reduction of dose or administration with meals. Allergic skin reactions (pruritus, erythema, urticaria, and morbilliform or maculopapular eruptions) are transient, usually not serious, and frequently disappear with continued administration. Orinase should be discontinued if skin reactions persist. Recent reports indicate that long-term use of Orinase has no appreciable effect on body weight.

Orinase appears to be remarkably free from gross clinical toxicity: crystalluria or other renal abnormalities have not been observed; incidence of liver dysfunction is remarkably low and jaundice has been rare and cleared readily on discontinuation of drug (carcinoma of the pancreas or other biliary obstruction should be ruled out in persistent jaundice); leukopenia; agranulocytosis; thrombocytopenia; hemolytic anemia; aplastic anemia; pancytopenia; and hepatic porphyria and porphyria cutanea tarda have been reported.

**Supplied:** *0.5 g. Tablets*—bottles of 50, 200, 500, and 1,000, and cartons of 100 in foil strips.

**For additional product information, see your Upjohn representative or consult the package insert.**

The Upjohn Company, Kalamazoo, Michigan 49001 **Upjohn**

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# Hackie Hemorrhoids

Mr. H. C., 40, taxicab driver, married with four children. Complains of anorectal pain, itching and irritation. Works long hours often in extreme heat in non-air conditioned cab. Sweats a great deal. Sudden perianal swelling two days ago. Similar episode when he was 24 years old. Examination reveals large prolapsing edematous internal and external hemorrhoids.




a typical proctological patient

to help relieve the pain, itching, burning associate with this and similar anorectal conditions

prescribe

Anuso HC® hemorrhoi suppositori with hydrocortisone acetate



Each suppository contains hydrocortison acetate 10 mg, bismuth subgallate 2.25 bismuth resorcin compound 1.75%, benz benzoate 1.2%, Peruvian balsam 1.8%, zir oxide 11.0%, and boric acid 5.0%, plus th following inactive ingredients: bismuth subiodide, calcium phosphate, and co ing in a bland hydrogenated vegetable oil base.

**Precaution** Prolonged or excessive use Anusol-HC might produce systemic cort steroid effects. Symptomatic relief shoul not delay definitive diagnosis or treatme

**Dosage and Administration** Anusol-H One suppository in the morning and one bedtime for 3 to 6 days or until the inflar mation subsides. Regular Anusol: One suppository in the morning, one at bedt and one immediately following each evacuation.

And for long-term patient comfort...recommend Anusol® hemorrhoidal suppositories. Each suppository contains the ingredients of Anusol-HC without the hydrocortisone.

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It lowers blood sugar without stimulating insulin secretion from the pancreas. And this may be important to the dieting diabetic.

**In adult-onset, nonketotic diabetics uncontrolled by diet alone...**

**DBI-TD®** **Geigy**
**phenformin HCl**

**lowers blood sugar without raising blood insulin.**

**DBI® phenformin HCl**
**Tablets of 25 mg.**
**DBI-TD® phenformin HCl**
**Capsules of 50 and 100 mg.**

*Indications:* Stable adult diabetes mellitus; sulfonylurea failures, primary and secondary; adjunct to insulin therapy of unstable diabetes mellitus.
*Contraindications:* Diabetes mellitus that can be regulated by diet alone; juvenile diabetes mellitus that is uncomplicated and well regulated on insulin; acute complications of diabetes mellitus (metabolic acidosis, coma, infection, gangrene); during or immediately after surgery where insulin is indispensable; severe hepatic disease; renal disease with uremia; cardiovascular collapse (shock); after disease states associated with hypoglycemia.
*Warnings:* Use during pregnancy is to be avoided.
*Precautions:* 1. *Starvation Ketosis:* This must be differentiated from "insulin lack" ketosis and is characterized by ketonuria which, in spite of relatively normal blood and urine sugar, may result from excessive phenformin therapy, excessive insulin reduction, or insufficient carbohydrate intake. Adjust insulin dosage, lower phenformin dosage, or supply carbohydrates to alleviate this state. **Do not give insulin without first checking blood and urine sugar.**
2. *Lactic Acidosis:* This drug is not recommended in the presence of azotemia or in any clinical situation that predisposes to sustained hypotension that could lead to lactic acidosis. To differentiate lactic acidosis from ketoacidosis, periodic determinations of ketones in the blood and urine should be made in diabetics previously stabilized on phenformin, or phenformin and insulin, who have become unstable. If electrolyte imbalance is suspected, periodic determinations should also be made of electrolytes, pH, and the lactate-pyruvate ratio. The drug should be withdrawn and insulin, when required, and other corrective measures instituted immediately upon the appearance of any metabolic acidosis.
3. *Hypoglycemia:* Although hypoglycemic reactions are rare when phenformin is used alone, every precaution should be observed during the dosage adjustment period particularly when insulin or a sulfonylurea has been given in combination with phenformin.
*Adverse Reactions:* Principally gastrointestinal; unpleasant metallic taste, continuing to anorexia, nausea and, less frequently, vomiting and diarrhea. Reduce dosage at first sign of these symptoms. In case of vomiting, the drug should be immediately withdrawn. Although rare, urticaria has been reported, as have gastrointestinal symptoms such as anorexia, nausea and vomiting following excessive alcohol intake.
(B)98-146-103-C

*For complete details, including dosage, please see full prescribing information.*

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*The Journal of The*
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*Medical Association*

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

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**Length**—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

**Manuscripts**—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

**Illustrations**—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

**References**—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, Arch Int Med 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard—e.g. mg, ml, Gm.

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# Pinworm therapy is often a family affair



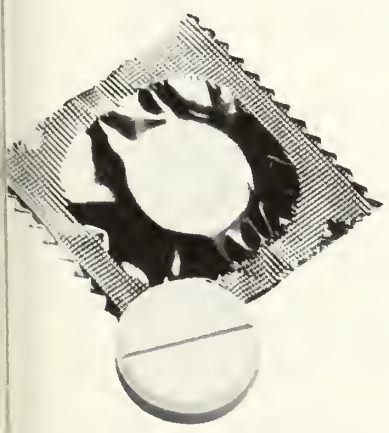


**Contraindications:** History of hypersensitivity to thiabendazole.
**Warnings:** If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.
**Precautions:** Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
**Adverse Reactions:** Most frequently encountered are anorexi nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddine and headache have occurred. Rarely, tinnitus, hyperirritabilit numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise ir cephalin flocculation and SGOT; perianal rash, cholestasis a parenchymal liver damage; hyperglycemia; transient leukope malodor of the urine, crystalluria, hematuria; appearance of Ascaris in the mouth and nose. Hypersensitivity reactions

# A New Dosage Form:

# Chewable Tablets 500 mg Mintezol®

(THIABENDAZOLE | MSD)



so easy to take
everyone in the family
will keep to the
regimen you prescribe

clude: fever, facial flush, chills, conjunctival injection, gioedema, anaphylaxis, skin rashes, erythema multiforme ncluding Stevens-Johnson syndrome), and lymphadenopathy.

**upplied:** Chewable tablets, containing 500 mg thiabendazole, boxes of 36, strip packaged, individually foil wrapped; uspension, containing 500 mg thiabendazole per 5 cc, in ottles of 120 cc.

*r more detailed information, consult your MSD representative or see the Direction Circular. Merck Sharp & Dohme, ivision of Merck & Co., Inc., West Point, Pa. 19486*

addendum

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## INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infestations, whether encountered singly or in combination. Dosages are weight related; therefore, a weight-dose chart is included in the Direction Circular for your convenience when writing a prescription. MINTEZOL should be given after meals if possible.

| INDICATIONS | DOSAGE (1st Day) | ADDITIONAL REGIMEN | COMMENTS |
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| Pinworm disease | Two doses of 1 tablet/50 lb | Repeat 7 days later | This regimen is designed to reduce the risk of reinfection. However, if not practical, repeat the regimen the next day. |
| Threadworm,* large roundworm,* hookworm,* and whipworm* disease | Two doses of 1 tablet/50 lb | Repeat the next day | Alternatively, a single dose of 2 tablets/50 lb may be given. However, a higher incidence of side effects should be expected. |
| Creeping eruption | Two doses of 1 tablet/50 lb | Repeat the next day | If active lesions are still present 2 days after completing this regimen, a second course is recommended. |
| Symptoms of trichinosis* during the invasive phase of the disease | Two doses of 1 tablet/50 lb | Repeat for 2 to 4 successive days | The optimal dosage for the treatment of trichinosis has not been established. |

The recommended maximal daily dosage is 3 g (6 tablets).

*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

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Remarkably well tolerated.
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Tablets 15 mg., 30 mg.
Elixir 30 mg./5 cc. (alcohol 7%)

**Indications:** Useful as a daytime sedative when mild sedation is required for relief of symptoms of anxiety or tension resulting from emotional, physical, or situational stress.
**Contraindications:** Porphyria or sensitivity to barbiturates. **Warning:** May be habit forming.
**Precautions:** Exercise caution in moderate to severe hepatic disease. Elderly or debilitated patients may react with marked excitement or depression. **Adverse Reactions:** Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and systemic disturbances are seldom seen.
**Usual Adult Dosage:** For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d.
**Also available:** BUTICAPS® [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg.,

McNeil Laboratories, Inc., Fort Washington, Pa. 19034

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# if skin is infected, or open to infection...

# choose the topicals that give your patient–

- broad antibacterial activity against susceptible skin invaders
- low allergenic risk—prompt clinical response

## Special Petrolatum Base

## Neosporin® Ointment

(polymyxin B-bacitracin-neomycin)

Each gram contains: Aerosporin® brand polymyxin B sulfate, 5000 units; zinc bacitracin, 400 units; neomycin sulfate 5 mg. (equivalent to 3.5 mg. neomycin base); special white petrolatum q. s.
In tubes of 1 oz. and ½ oz. for topical use only.

## Vanishing Cream Base

## Neosporin®-G Cream

(polymyxin B-neomycin-gramicidin)

Each gram contains: Aerosporin® brand polymyxin B sulfate, 10,000 units; neomycin sulfate, 5 mg. (equivalent to 3.5 mg. neomycin base); gramicidin, 0.25 mg., in a smooth, white, water-washable vanishing cream base with a pH of approximately 5.0. Inactive ingredients: liquid petrolatum, white petrolatum, propylene glycol, polyoxyethylene polyoxypropylene compound, emulsifying wax, purified water, and 0.25% methylparaben as preservative.
In tubes of 15 g.

NEOSPORIN for topical infections due to susceptible organisms, as in impetigo, surgical after-care, and pyogenic dermatoses.

*Precaution:* As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

*Contraindications:* Not for use in the external ear canal if the eardrum is perforated. These products are contraindicated in those individuals who have shown hypersensitivity to any of the components.

Complete literature available on request from Professional Services Dept. PML.

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Research Triangle Park
North Carolina 27709



# When you select this familiar antibiotic for IV infusion you have available a broad dosage range that hospitalized patients may need.

Intravenous Lincocin (lincomycin hydrochloride, Upjohn), with its 1.2 to 8 grams/day dosage range, covers many serious and even life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. Lincocin IV therefore can be as useful in your hospitalized patients as its IM use has proved to be in your office patients. As with all antibiotics, *in vitro* susceptibility studies should be performed.

**1.2 to 8 grams/day IV dosage range:** Most hospitalized patients with uncomplicated pneumonias respond satisfactorily to 1.2 to 1.8 grams/day of Lincocin IV. These doses may have to be increased for more serious infections. In life-threatening situations as much as 8 grams/day has been administered intravenously to adults.

In usual IV doses, Lincocin (lincomycin hydrochloride, Upjohn) should be diluted in 250 ml or more of normal saline solution or 5% glucose in water. But when 4 grams or more per day is given, Lincocin should be diluted in no less than 500 ml of either solution, and the rate of administration should not exceed 100 ml/hour. Too rapid intravenous administration of doses exceeding 4 grams may result in hypotension or, in rare instances, cardiopulmonary arrest.

**Effective gram-positive antibiotic:** Lincocin IV is effective in respiratory tract, skin and soft-tissue, and bone

fections caused by susceptible strains
f pneumococci, streptococci, and
aphylococci, including penicillin-
esistant strains. Staphylococcal strains
esistant to Lincocin (lincomycin
ydrochloride, Upjohn) have been
ecovered. Before initiating therapy,
ulture and susceptibility studies should
e performed. Lincocin has proved
luable in treating patients hyper-
nsitive to penicillin or cephalosporins,
nce Lincocin does not share
ntigenicity with these compounds.
owever, hypersensitivity reactions
ve been reported, some of these in
tients known to be sensitive to
nicillin.

**ell tolerated at infusion site:** Lincocin
travenous infusions have not
oduced local irritation or phlebitis,
en given as recommended. Lincocin
sually well tolerated in patients who
e hypersensitive to other drugs.
evertheless, Lincocin should be used
utiously in patients with asthma or
nificant allergies.

patients with impaired renal function,
e recommended dose of Lincocin
ould be reduced to 25—30% of
e dose for patients with normal
dney function. Its safety in
gnant patients and in infants
s than one month of age has
been established.

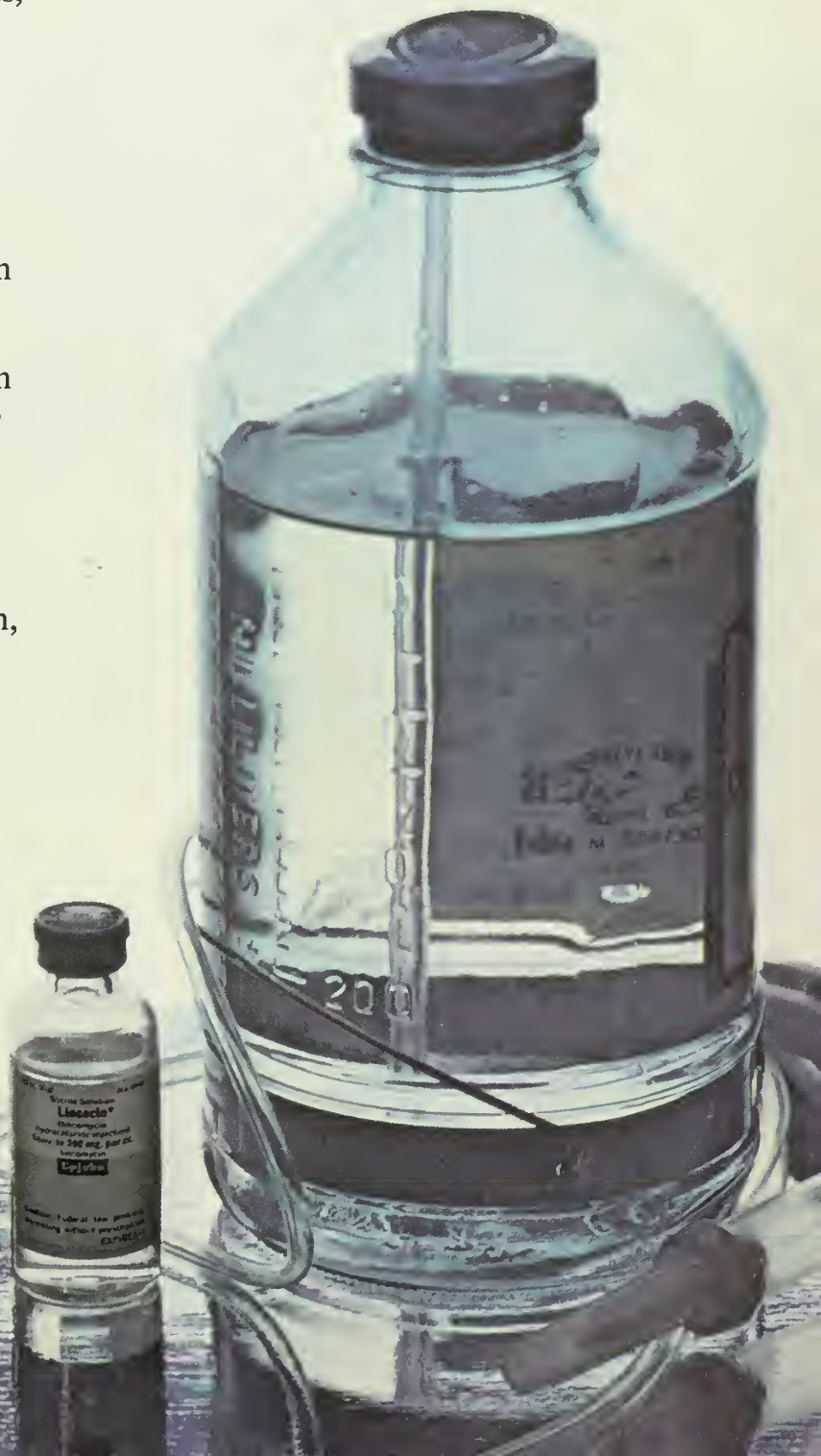
**ncocin may be used with other**
**imicrobial agents:** Since Lincocin
table over a wide pH range, it is
itable for incorporation in
avenous infusions; it also may be
administered concomitantly with other antimicrobial agents when indicated. However, Lincocin should not be used with erythromycin, as *in vitro* antagonism has been reported.

# Lincocin®

Sterile Solution (300 mg per ml)

## (lincomycin hydrochloride, Upjohn)

For further prescribing information, please see following page.




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Sterile Solution (300 mg. per ml.)

# Lincocin®

## (lincomycin hydrochloride, Upjohn)

**Up to 8 grams per day by IV infusion for hospitalized patients with life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. As with all antibiotics, *in vitro* susceptibility studies should be performed.**

| Each preparation contains: | Lincomycin hydrochloride monohydrate equivalent to lincomycin base |
|---|---|
| 250 mg Pediatric Capsule | 250 mg |
| 500 mg Capsule | 500 mg |
| *Sterile Solution per 1 ml | 300 mg |
| Syrup per 5 ml | 250 mg |

*Contains also: Benzyl Alcohol 9 mg; and, Water for Injection—q.s.

Lincocin (lincomycin hydrochloride) is indicated in infections due to susceptible strains of staphylococci, pneumococci, and streptococci. *In vitro* susceptibility studies should be performed. Cross resistance has not been demonstrated with penicillin, ampicillin, cephalosporins, chloramphenicol or the tetracyclines. Some cross resistance with erythromycin has been reported. Studies indicate that Lincocin does not share antigenicity with penicillin compounds.

CONTRAINDICATIONS: History of prior hypersensitivity to lincomycin or clindamycin. Not indicated in the treatment of viral or minor bacterial infections.

WARNINGS: *CASES OF SEVERE AND PERSISTENT DIARRHEA HAVE BEEN REPORTED AND HAVE AT TIMES NECESSITATED DISCONTINUANCE OF THE DRUG. THIS DIARRHEA HAS BEEN OCCASIONALLY ASSOCIATED WITH BLOOD AND MUCUS IN THE STOOLS AND HAS AT TIMES RESULTED IN AN ACUTE COLITIS. THIS SIDE EFFECT USUALLY HAS BEEN ASSOCIATED WITH THE ORAL DOSAGE FORM BUT OCCASIONALLY HAS BEEN REPORTED FOLLOWING PARENTERAL THERAPY.* A careful inquiry should be made concerning previous sensitivities to drugs or other allergens. Safety for use in pregnancy has not been established and Lincocin (lincomycin hydrochloride) is not indicated in the newborn. Reduce dose 25 to 30% in patients with severe impairment of renal function.

PRECAUTIONS: Like any drug, Lincocin should be used with caution in patients having a history of asthma or significant allergies. Overgrowth of nonsusceptible organisms, particularly yeasts, may occur and require appropriate measures. Patients with pre-existing monilial infections requiring Lincocin therapy should be given concomitant antimonilial treatment. During prolonged Lincocin therapy, periodic liver function studies and blood counts should be performed. Not recommended (inadequate data) in patients with pre-existing liver disease unless special clinical circumstances indicate. Continue treatment of β-hemolytic streptococci infections for 10 days to diminish likelihood of rheumatic fever or glomerulonephritis.

ADVERSE REACTIONS: *Gastrointestinal*—Glossitis, stomatitis, nausea, vomiting. Persistent diarrhea, enterocolitis, and pruritus ani. *Hemopoietic*—Neutropenia, leukopenia, agranulocytosis, and thrombocytopenic purpura have been reported. *Hypersensitivity reactions*—Hypersensitivity reactions such as angioneurotic edema, serum sickness, and anaphylaxis have been reported, sometimes in patients sensitive to penicillin. If allergic reaction occurs, discontinue drug. Have epinephrine, corticosteroids, and antihistamines available for emergency treatme *Skin and mucous membranes*—Skin rasl urticaria, vaginitis, and rare instances of foliative and vesiculobullous dermatitis h been reported. *Liver*—Although no direct lationship to liver dysfunction is establish jaundice and abnormal liver function t (particularly serum transaminase) have b observed in a few instances. *Cardiovasc* —Instances of hypotension following pa teral administration have been report particularly after too rapid IV adminis tion. Rare instances of cardiopulmonary rest have been reported after too rapid administration. If 4.0 grams or more adr istered IV, dilute in 500 ml of fluid administer no faster than 100 ml per h *Special senses*—Tinnitus and vertigo h been reported occasionally. *Local react* —Excellent local tolerance demonstrate intramuscularly administered Linco (lincomycin hydrochloride). Reports of p following injection have been infrequ Intravenous administration of Lincoci 250 to 500 ml of 5% glucose in dist water or normal saline has produced local irritation or phlebitis.

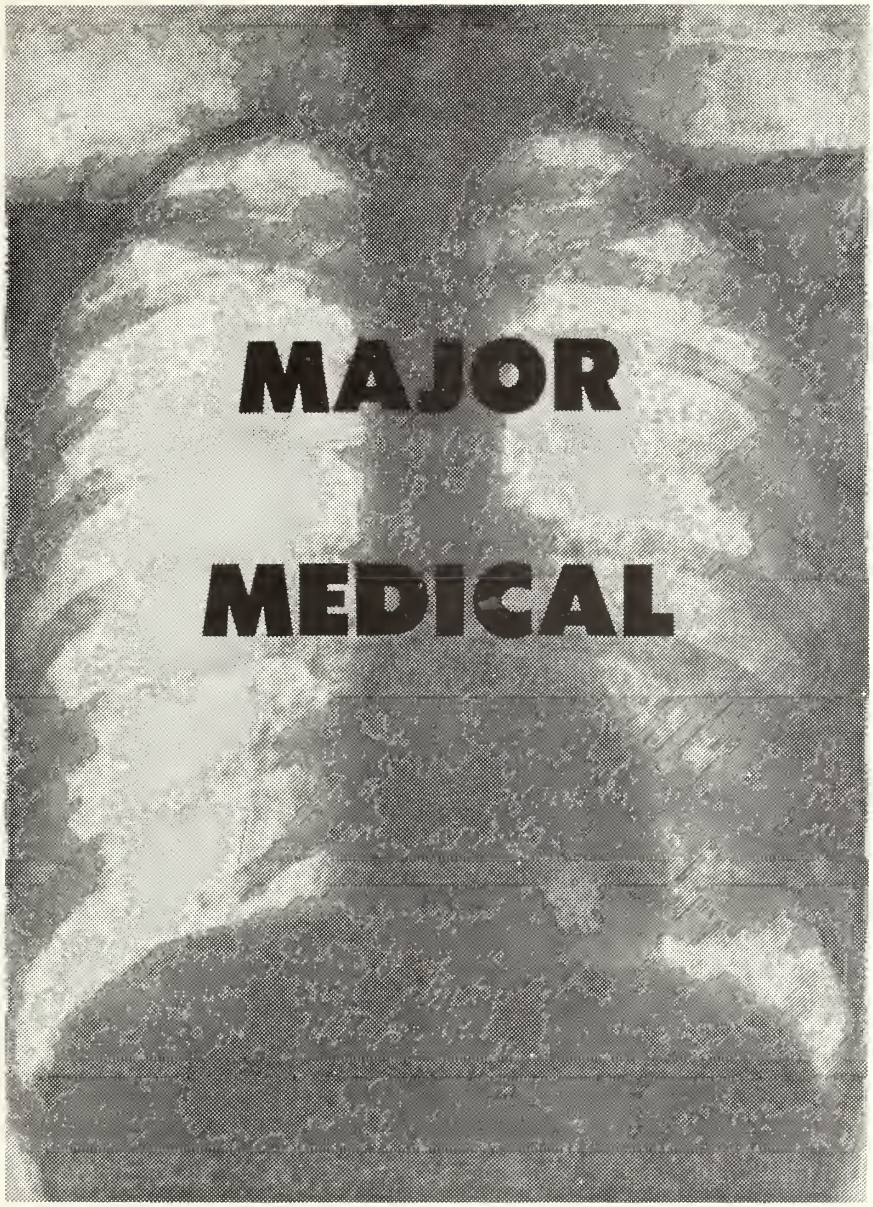
HOW SUPPLIED: *250 mg* and *500* Capsules—bottles of 24 and 100. *Ste Solution, 300 mg per ml*—2 and 10 ml and 2 ml syringe. *Syrup, 250 mg per* —60 ml and pint bottles.

*For additional product information, co the package insert or see your Upj representative.*

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Kalamazoo, Michigan 49001

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VOLUME 68 JULY, 1972 NUMBER 7

# CYSTIC FIBROSIS IN ADULTS

## REPORT OF A CASE AND REVIEW OF THE LITERATURE

EDWIN L. ANDERSON, M. D.*
LAWRENCE E. GREEN, M. D.

Long-term survival of children with cystic fibrosis and the diagnosis of this metabolic disease in adults have presented a new challenge to physicians caring for non-pediatric patients.[1] The present case report describes a 37-year-old male who was not diagnosed as having cystic fibrosis until age 30, and who has a 13-year-old asymptomatic daughter. Of interest not only is the age at which this patient was diagnosed but also his ability to father a child, particularly since a recently recognized aspect of cystic fibrosis in adults has been the apparent lack of fertility in affected males.[2] The pertinent literature is also reviewed.

### Case Report

A 37-year-old Caucasian male who was diagnosed as having cystic fibrosis at age 30 and who has had multiple admissions to the Charleston Veteran's Administration Hospital was admitted for evaluation of his pulmonary condition. The diagnosis of cystic fibrosis had been made on clinical history and an elevated sweat chloride. This patient has had numerous admissions for respiratory disease, abdominal pain, and partial intestinal obstruction. He has a 13-year-old daughter who is asymptomatic but has been diagnosed as being heterozygous for cystic fibrosis, based on elevated sodium and chloride levels in hair and nail samples. The patient has a brother who is asymptomatic but there is a strong history of respiratory disease on the mother's side of the family.

The patient was drafted into the Army but was discharged after three months because of recurrent pneumonia. He admits to hemoptysis and production of thick green sputum for the last 10 to 15 years. More recently he has had several episodes of syncope as well as increasing dyspnea on exertion. He has had two exploratory laparotomies for intussusception, the first at age seven, and a third procedure for closure of an incisional hernia. Laryngoscopy and biopsy of a benign ulcer of the left arytenoid area were carried out in 1969.

This patient has a history of steatorrhea and frequent bowel movements beginning in childhood. He describes his stools as foul-smelling and bulky, and has observed fat and undigested foods such as bacon and corn in them. He has been on pancreatic enzyme replacements for several years with some decrease in steatorrhea and number of bowel movements. His weight has gradually decreased over the years. In the last ten years he has had several hospital admissions for right lower quadrant pain and has been diagnosed as having partial intestinal obstruction as well as fecal impaction. He is presently on a low-salt, low-fat, high-protein diet. In addition he is taking digitalis for chronic cor pulmonale.

He was employed as an electronics technician until approximately eight years ago when he was forced to retire because of respiratory insufficiency.

Physical examination revealed an alert, cooperative, tall, thin, white male with cyanotic lips lying quietly in bed. His weight was 47.5 kg, oral temperature 99.4 F, pulse 92, respiration 32, and blood pressure 104/60. The skin turgor was fair and the eyes were slightly sunken. There was no neck vein distention.

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The chest was increased in height as well as in anteroposterior diameter and moved little with ventilation. Accessory muscles of respiration were prominent in the neck. The chest was hyperresonant to percussion and breath sounds were diminished bilaterally. Moist rales were heard in both lung fields. The heart sounds were distant. The liver was palpable about 3 cm below the right costal margin in the midclavicular line. Cyanosis and clubbing of the fingers and toes were present. Both testes were descended and were normal in size and consistency. The spermatic cord and vas deferens felt normal on palpation.

Sputum cultures grew out *Pseudomonas aeruginosa*, mucoid, *P. aeruginosa*, *Escherichia coli*, and *Enterobacter aerogenes*. Cultures for fungi and acid fast organisms were negative on several occasions.

The hematocrit reading was 47% and the WBC, 7,600/mm.$^3$ Blood urea nitrogen was 12 mg/100 ml; serum sodium, 142 mEq/liter, chloride, 93 mEq/liter; carbon dioxide, 33 mEq/liter; serum total proteins, 6.0 g/100 ml with 2.3 g/100 ml of albumin. Serum lipase was zero and the serum cholesterol was 178 mg/100 ml. Arterial blood gases on admission showed a $pO_2$ of 26.5 mm Hg; $pCO_2$, 59.8 mm Hg; per cent saturation of hemoglobin, 51%; pH, 7.4.

D-xylose absorption studies were within normal limits. The stool was positive for fat, vegetable and meat fibers. Stool cultures were negative for salmonella and shigella. Electrocardiogram revealed some right axis deviation and right heart strain. Chest x-ray films showed bilateral diffuse fibrosis, flattened diaphragms, increased anteroposterior diameter, and several cystic blebs. Sinus films revealed pansinusitis.

## Discussion

Cystic fibrosis is a genetic metabolic disease in which the exocrine glands of the body secrete excessive amounts of viscid mucus. This metabolic defect occurs in one of every 1000 to 1600 newborn infants and is the most common genetic disease of childhood.[3] The incidence in adults is estimated to be 1 per 40,000.[2] Transmission is thought to be by an autosomal recessive gene which is present in 5 to 6 per cent of the population.[3,4]

The basic defect in cystic fibrosis is still not known. Many hypotheses have been advanced but those proposing an abnormality in membrane transport correlate best the various manifestations of this protean disease. Gibson *et al*[5] have related the elevated salt concentration in sweat and the viscid mucus to excess calcium secretion by the exocrine glands of cystic fibrosis patients. Their theory specifically implicates mucus as failing in its biologic role of regulating the passive diffusion of water and small ions. Spock[6] hypothesized that a humoral substance in the serum of cystic fibrosis patients attached to the membrane surface of cells of the exocrine gland and, by altering the cell membrane permeability, increased the synthesis of protein and mucopolysaccharide.

The pathology and pathophysiology of cystic fibrosis are due largely to abnormally functioning exocrine glands which secrete excess amounts of mucus.[7] The pancreas and the lungs are the organs showing the greatest pathological change.[7] Histologic study of the pancreas reveals normal islands of Langerhans surrounded by increased connective tissue, and acini and ducts filled with eosinophilic material.[2] Consequently, the pancreatic enzymes trypsin, lipase, and amylase are absent and impaired absorption of nutrients results. Excessive mucus in the airways leads to obstruction and dilatation, bronchitis, atelectasis, bronchiolectasis, and bronchiectasis.[2,9] A possible explanation for the failure to clear this excess mucus was thought to have been found when in 1967 Spock[9] reported that sera from patients with cystic fibrosis caused rabbit tracheal cilia to beat erratically. More recently, however, Cherry *et al*[10] have reported that all undiluted sera, even from healthy control subjects, disorganized the ciliary rhythm of rabbit and chicken trachea.

Pulmonary involvement usually dominates the clinical picture in children and adults with cystic fibrosis.[11] While newborn infants with meconium ileus and children with severe forms of cystic fibrosis are usually diagnosed at birth or very early in childhood, patients with milder disease may escape detection for years[12,13] The child with cystic fibrosis will usually have a history of failure to thrive, ravenous appetite, abnormal bowel movements, recurrent respiratory disease, chronic cough, distended abdomen, clubbed fingers, and barrel chest.[3] A similar but longer history of these same findings can be elicited in adults with the disease.[11,15,16]

Abnormalities in the appearance of the chest x-ray film and a high index of suspicion become especially important in diagnosing

cystic fibrosis in an adult. Tomashefski[16] states that a combination of soft, bilateral and persisting mixed patchy, linear, or nodular pulmonary infiltrates in a young adult with a long history of respiratory disease should suggest cystic fibrosis. Adults and children can show all the radiologic findings of chronic obstructive pulmonary disease,[4,8,13] namely, increased anteroposterior diameter, small cardiothoracic index, and flattened diaphragms. Radiologic evidence of bronchiectasis is also found to be a constant feature of the pulmonary involvement in adolescents and young adults.[13]

Studies of pulmonary function in adults and children show a combination of obstructive and restrictive ventilatory impairment.[11,16] The earliest change noted in pulmonary function is a mild decrease in arterial oxygen saturation.[16] Other changes occurring include low maximal voluntary ventilation, decreased forced expiratory flow rates, decreased vital capacity, and increased residual volume,[14,16] all of these being alterations one would expect in chronic obstructive lung disease.

The bacterial flora of the respiratory system of the cystic fibrosis patient has received considerable attention. The exact role bacterial infection plays in the development of pulmonary involvement is not known. The observation has been made that prior to infection patients with cystic fibrosis have normal tracheobronchial glands and secretions.[6] The increased incidence of *Staphylococcus aureus* and *Pseudomonas aeruginosa* in these patients is well documented.[17,18] A mucoid variant of *P. aeruginosa* can also be cultured from the tracheobronchial system of many of the patients, especially those with severe pulmonary involvement.[19,20] The role this variant plays in the pulmonary problems associated with cystic fibrosis is not known but there is in vitro evidence that slime from this strain interferes with phagocytosis of not only *P. aeruginosa* but also *S. aureus*.[21]

While females with cystic fibrosis can successfully bear children, the problem of infertility in adult males with this disease has only recently been recognized.[2] Kaplan *et al*[22] and Denning *et al*[23] reported that they were unaware of any instances where adult males with cystic fibrosis were fathers. The infertility is not due to lack of active spermatogenesis but is related to a failure of normal development of the vas deferens.[22,24]

The outlook for patients with cystic fibrosis has improved remarkably in the last 30 years. The first significant change occurred after 1939 when sulfonamides and antibiotics became available.[7] In addition to a greater awareness of the disease and earlier diagnosis, the more recent advances in prognosis are due to various types of pulmonary therapy, including aerosol by face mask, mist test, and postural drainage.[1] In 1967 Warwick[7] reported that in a group of cystic fibrosis patients receiving pulmonary therapy prophylactically the survivors older than age 20 increased to over 50 per cent.

An elevated sweat chloride is essential for the diagnosis of cystic fibrosis.[12] Any child or adult with recurrent respiratory infections and abnormal bowel movements should have a sweat test.[11] Other diagnostic procedures such as duodenal intubation, stool trypsin, and characteristic changes in the chest film can lend supporting evidence. Warwick[3] considers failure to order a sweat test on any patient with "asthma" or "chronic bronchitis" as one of the principal reasons for not diagnosing cystic fibrosis.

The treatment of cystic fibrosis is essentially the same in both children and adults.[12,25] The pancreatic deficiency is corrected with oral pancreatic enzymes and a low-fat, high-protein diet.[13] Malabsorption is much less of a problem in adolescents and young adults than in children,[13] and Jones[15] was impressed by the number of adults who had no bowel symptoms. Aerosal therapy and postural drainage are the main components in management of pulmonary involvement[25] and, as already mentioned, are the most beneficial to the cystic fibrosis patient in terms of survival.[7] Adults and older children can be taught to perform the latter physical therapy procedure upon themselves. Antibiotics are also especially important because of frequent respiratory infections and the question of how and when to use them is frequently raised.

The soundest approach, and the one used by many of those treating large numbers of these patients, is to treat exacerbations only based on sputum cultures and antibiotic sensitivity tests.[11,25]

A major problem in adults with cystic fibrosis is the psychologic one.[1] Physicians caring for these patients must be thoroughly familiar with the disease, its therapy, and the tremendous emotional burden associated with it. Furthermore, newly diagnosed adults will frequently not sleep in a mist tent or accept physical therapy; according to Huang[25] these patients generally do well on antibiotics alone.

The patient presented in the case report is of interest not only because of his age but also because of his apparent fertility, both of which, in the past, would have been evidence against a diagnosis of cystic fibrosis. This patient has a life-long history of recurrent respiratory infections and has all the physical findings of chronic obstructive pulmonary disease. His past history also reveals abnormal and frequent bowel movements, right lower quadrant abdominal pain, and several episodes diagnosed as partial intestinal obstruction. The isolation of mucoid *P. aeruginosa* from this patient's sputum during his last hospitalization was a significant finding. All of the above are consistent with the findings in a child with cystic fibrosis. In addition, this man has a 13-year-old daughter who is heterozygous for cystic fibrosis, although the validity of elevated sodium and chloride levels in nail clippings and hair in detecting heterozygosity is still not fully established.[8]

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# INTESTINAL PARASITES AND NUTRITIONAL STATUS

## V. Intestinal Parasites at Certain State-Operated Institutions in South Carolina

B. W. DUDLEY, M.A.*
K. FISHER, B.A.

### Introduction

In areas where intestinal parasites are known to exist, individuals who reside at institutions often harbor the same parasites.[1,2,3] Many residents at South Carolina institutions come from homes located in remote areas where there are no sanitary facilities. The disadvantaged as well as the handicapped often do not learn to practice sanitary hygiene during their formative years. Such disadvantaged persons often bring into these institutions communicable diseases; including parasitic infection, which the medical staff must treat in order to benefit the infected individual and protect his associates.[4,5]

Once a parasitic infection becomes endemic in an institution, the problem of control is increasingly difficult. Special efforts are made to keep buildings and grounds clean; however, even the most efficient institutional maintenance force must exert particular care in combating parasite ova. Even though he resides in a clean environment, any individual infected with ascaris can remain infected for up to 10 months, the life span of an adult *Ascaris lumbricoides*. Should an individual have whipworm infection, the problem is more severe, for *Trichuris trichiura* is known to live many years in the intestines. Hookworm (*Necator americanus*) infection does not normally go undetected because the individual with a heavy infection will exhibit signs of anemia which, when investigated, should result in immediate diagnosis.

*From the Malnutrition and Parasite Project, University of South Carolina, Columbia, South Carolina, 29208. Funded in part by the Office of Economic Opportunity. CG 8143 C/O 3.

While several studies have been made on the incidence of intestinal parasites among certain groups in the state of South Carolina,[6-12] insufficient data are available from all areas of the state to give a definitive value for the state-wide prevalence of these parasites. In order to gain more information as to the areas throughout the state where intestinal parasites were harbored, the University of South Carolina was invited by the directors of several state institutions to examine existing medical records and to analyze stool samples to survey for intestinal parasites. It was believed that since these institutions have residents from most of the 46 counties, an indication of state-wide prevalence could be obtained. The survey of institutional records, and results from stool examinations are presented here.

### Methods

Medical records were reviewed and data tabulated for two institutions. In all other institutions, two fecal samples were collected from each resident, when possible, for a random sample. The samples were placed in plastic or metal containers and stored on ice for 24 to 48 hours before being transported on ice in a styrofoam container to the University laboratory. Utilizing the direct smear technique, two slides from each specimen were examined microscopically, to establish the presence of helminth eggs.[13] Where indicated, quantitative estimates of individual worm burdens were made by the Stoll dilution egg count technique.[14]

Individuals found to be harboring intestinal parasites were treated by the institution's

staff nurses according to the medical director's blanket prescriptions for the various parasites.

In order to promote cooperative participation of the residents and to assist in attaining eradication in these state-operated schools, special educational programs were held, which emphasized the prevention of parasitic infection. Where applicable, the academic science curriculum geared to specific grade levels was revised to contain a section on applied parasitology and environmental health. In addition, the aides and attendants at each institution involved were given in-service training sessions on how to prevent reinfection.

## SOUTH CAROLINA MENTAL RETARDATION COMMISSION

The South Carolina Mental Retardation Commission was established in July, 1968, and three state mental institutions were placed under its control.

*Midlands Center* was established at Columbia, South Carolina, in 1953. A resident population of approximately 250 males and 200 females is housed in six cottages, four of which are complete with dining room, and all have activity areas. An infirmary, laboratory-clinic, school building and a vocational rehabilitation facility are also located on the campus. Currently under construction are a supply warehouse complex, gymnasium, swimming pool, administration building and four additional cottages. Residents range in age from infancy to the mid-forties, but less than fifty are under the age of ten.

An examination of the records of Midlands Center revealed that as of December, 1971, 152 of the residents were infected with whipworm (*Trichuris trichiura*), whereas the incidence of ascaris was less than two percent. While many parasites appeared from time to time, whipworms were the most common. Of 301 individuals who have been admitted over the past 20 years, 34 were infected with whipworm at the time of their admission. However, by the present time, the incidence of whipworm in this same population had quadrupled (Table I).

While it is often difficult to teach sanitary habits to mentally retarded individuals, it is evident that in the past the preventive measures used were insufficient to prevent the transmission of trichuris infections. The treatment of trichuriasis is further thwarted by the fact that the best drug available is only 20 - 30 percent effective in removing the whipworm, which partially imbeds itself in the intestinal wall.[15,16] Due to improved maintenance in the last few years, individuals who enter Midlands today have a better chance of avoiding infection than those who entered in previous years (Table I). Nevertheless, infection of those who never harbored whipworms, and reinfection of those who were cleared, still occurs.

Whipworm eggs found in fresh fecal matter do not become infective until they have been exposed to the air for approximately three weeks. Therefore additional efforts to break the life-cycle of this parasite by improved

**TABLE I**

**PREVALENCE OF TRICHURIASIS**
**Midlands Center — Columbia, S. C.**

| *Entrance Date* | *Number of Individuals Examined* | *Number of Initial Positives* | *Number of Positives in 1971-1972* |
|---|---|---|---|
| 1970 | 12 | 2 | 5 |
| 1969 | 20 | 6 | 7 |
| 1968 | 11 | 3 | 7 |
| 1967 | 9 | 3 | 4 |
| 1966 | 20 | 3 | 6 |
| 1965 | 20 | 2 | 9 |
| 1964 | 11 | 0 | 4 |
| 1963 | 7 | 0 | 4 |
| 1962 | 9 | 0 | 4 |
| 1961 | 14 | 0 | 4 |
| 1960 | 8 | 1 | 3 |
| 1959 | 29 | 2 | 17 |
| 1958 | 20 | 1 | 9 |
| 1957 | 33 | 2 | 21 |
| 1956 | 54 | 6 | 33 |
| 1955 | 12 | 1 | 7 |
| 1954 | 9 | 1 | 6 |
| 1953 | 2 | 1 | 1 |
| 1951 | 1 | 0 | 1 |
| Totals | 301 | 34 | 152 |
| Percent infected | | 11.3% | 50.5% |

environmental sanitation appears to be one practical step in eradication of this parasite.

*Whitten Village*, in Clinton, is the oldest and largest South Carolina state institution for the mentally retarded. Over 2800 residents are under the care of 1200 staff members including professional personnel specializing in medicine, nursing, psychology, dentistry, physical and occupational therapy.

The Village has farm and dairy areas, 50 cottage units for residents, and 17 staff cottages in addition to the administration building, four academic buildings, two gymnasiums, two swimming pools, and a hospital, on a campus covering 1800 acres.

In January, 1972, a random survey was conducted to determine how many residents harbored roundworms, whipworms or hookworms. Stools were submitted by 500 of the 2800 residents. Examination revealed 15 residents (3.0 percent) harbored *Trichuris trichiura* (whipworm), and 18 (3.6 percent) harbored *Ascaris lumbricoides* (roundworm). Only one specimen from the 500 contained hookworm ova (Table II).

*Coastal Center*, in Ladson, about 20 miles northwest of Charleston, functions as an area mental retardation center with emphasis on the outreach concept, as well as a comprehensive regional center. Approximately 500 residents and 500 day students are served by a staff of 419 with the added assistance of volunteers who donate more than 18,000 hours per year.

The campus has 24 major buildings covering 475 acres and includes among the facilities 13 residential cottages, a gymnasium, swimming pool, canteen and school area, as well as a modern laboratory and hospital-infirmary. The professional staff includes pediatricians, psychologists, occupational and physical therapists and nurses. A liberal visitation policy is followed for the residents with frequent visits to their homes on weekends and holidays. As part of the admissions procedure, all residents are given the standard innoculations and treated with piperazine citrate for roundworms (*Ascaris lumbricoides*), as recommended by the World Health Organization and others.[10,11,18-20] In a survey of 347 residents in March, 1972, 15 individuals (4.3 percent) were found to harbor intestinal parasites (Table II).

## SOUTH CAROLINA SCHOOL FOR THE DEAF AND BLIND

The South Carolina School for the Deaf and Blind, located in Spartanburg, has 16 major buildings on a 151-acre tract of land.

**Table II**

**Incidence of Parasitic Nematode Infections In Certain South Carolina State Institutions**

| *Institution* | *Number Examined* | *Number Infected* | *Average Age Of Those Infected (Years)* | *Race* | | *Number of Home Counties Represented* | *Number Infections* | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | *C*[1] | *NC*[2] | | *A*[3] | *T*[4] | *H*[5] |
| Whitten Village | 500 | 34 | 28.4 | 30 | 4 | 19 | 18 | 15 | 1 |
| Coastal Center | 347 | 15 | 22.1 | 9 | 6 | 8 | 14 | 1 | 1 |
| School for Deaf & Blind | 415 | 31 | 11.7 | 10 | 21 | 15 | 28 | 5 | 2 |
| Reception & Evaluation Center | 668 | 46 | 13.7 | 14 | 32 | 18 | 32 | 5 | 11 |
| S. C. School for Boys | 82 | 12 | 13.6 | 3 | 9 | 9 | 12 | 0 | 0 |
| S. C. School for Girls | 100 | 0 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| John G. Richards School | 52 | 1 | 16 | ---- | 1 | 1 | 1 | 0 | 0 |
| Totals | 2,164 | 139 | 17.6 | 66 | 73 | 33 | 105 | 26 | 15 |
| Per cent infected | | 6.4% | | | | | 4.8% | 1.2% | .7% |

[1]Caucasian, [2]Non-caucasian, [3]Ascaris, [4]Trichuris, [5]Hookworm

The infirmary offers care for the sick, with a pediatrician making regular calls. The school, with an enrollment of nearly 600, operates for nine months of the year with vacations observed at Christmas and Easter. Since the children make many trips to their homes during the year, there is opportunity for them to return to school infected or reinfected with intestinal parasites.

Investigation showed that 7.5 percent of the children attending the South Carolina School for the Deaf and Blind harbored one or more of the intestinal parasites ascaris, trichuris and hookworm (Table II). Undoubtedly one reason for this prevalence is the fact that few of those infected or their families have an understanding of the causes of these infections or of necessary preventive measures.

## SOUTH CAROLINA DEPARTMENT OF JUVENILE CORRECTIONS

The South Carolina Department of Juvenile Corrections is controlled by a seven-member Board whose responsibility it is to manage, conduct, supervise, and create facilities for the care and diagnostic evaluation of juveniles committed by the courts. The Department's divisions include a Reception and Evaluation Center, a school for girls, and two schools for boys.

At the *Reception and Evaluation Center*, a professional staff which includes a psychiatrist, physician and several psychologists, social workers, teachers, and nurses examines all of the children committed to determine if any social, educational, psychological, emotional, vocational or medical problems exist. No child may be admitted to any of the three schools unless he is first processed at the Reception and Evaluation Center for a period of four to five weeks. The youths are then returned to the court with diagnosis and recommendations for final disposition. The center, located in Columbia, has 12 major buildings including 5 resident dorms, a recreation facility and an infirmary. An examination of the records at the Reception and Evaluation Center revealed that during the period December, 1971, to April, 1972, 668 children were admitted, all submitted stools, and 32 were found to contain ascaris eggs, 5 whipworm eggs, and 11 hookworm eggs (Table II).

The *John G. Richards School for Boys* in Columbia cares for male delinquents between the ages of 14 and 17 and has a capacity to house 270 boys. The school covers 600 acres and includes a farm and dairy as well as five dormitories, a gymnasium, infirmary, an activities building and three vocational trade buildings. Educational efforts are directed toward academic defects and prevocational skills, with a social work treatment program as one major part of the rehabilitation effort. A staff of 106 includes teachers, nurses and social workers, as well as a psychiatrist and physician who serve as needed. From the average daily population of 220, fifty-two stool samples were submitted for examination, one of which was found to contain ascaris eggs.

The *South Carolina School for Boys* in Florence assumes the care and treatment of males between the ages of 10 and 14. The school, covering 600 acres, has 14 major buildings which include an administration building, six residential cottages, a recreation building, gymnasium, infirmary, chapel and a dining hall-auditorium. Emphasis is placed on academic remedial education rather than vocational training. A staff of 86 persons including a psychologist, psychiatrist, several social workers, special education teachers and a nurse employ psychological treatment principles as a means to modify unacceptable antisocial behavior. With capacity of 250, the school has a daily average population of approximately 200. Of the eighty-two samples obtained from these students, 12 (14.6 percent) were found positive for ascaris (Table II). As a result of these findings, the admission procedure for all new students has been revised to include treatment with the anthelmintic pyrantel pamoate.

The *Riverside School for Girls*, in Columbia, has 10 major buildings which include four dormitories, a gymnasium and an educational unit. The school is in charge of the treatment, education, and rehabilitation of females between the ages of 10 and 21. The professional staff is comprised of a psycholo-

gist, psychiatrist, nurse and several teachers and social workers. Efforts are made to improve academic education and alleviate social problems. Special rehabilitation techniques for this purpose have been initiated at this school. Currently there are 78 employees and one hundred girls at this school. Stool samples from each resident were examined and no helminth ova were found.

## SUMMARY

A survey for intestinal parasites was made in eight institutions operated by the State of South Carolina and the results of the stool examinations were made known immediately to the institutions. The infected individuals were treated and an education program on how to prevent reinfection was conducted for residents of these institutions. Staff training programs were also held.

While progress has been made in recent decades, there are still many persons in South Carolina state institutions who harbor ascaris, whipworm and hookworm. Examination of the stools from a total of 2,164 individuals residing in various state institutions for parasite ova showed that 6.4 percent harbor intestinal nematodes. Those infected were from 33 different counties in all areas of this state, from the piedmont to the coast. Parasitic infection therefore can be considered to be a state-wide problem.

In view of the prevalence observed, trained volunteer workers should be encouraged to visit homes from which the infected individuals come to instruct the entire household in the practice of correct personal hygiene and to recommend construction of sanitary facilities where needed. Anthelmintic medication to remove parasites, and information through educational materials on how to protect themselves from such infections should also be stressed. All state institutions should be encouraged to include a fecal examination or anthelmintic treatment as part of the admissions procedure as a service to and safeguard for their residents.

### Acknowledgment

The authors wish to express their appreciation to the medical directors, nurses and the staffs of each participating institution. E. John Lease, Ph.D., Ardis M. Savory, B.S., Sallie A. Foster, B.S., and Amos Givens, B.S., were co-workers whose active participation in all phases of the study made it possible.

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*Is Cardiac Resuscitation Worthwhile?*
*A Decade of Experience*
J. G. Lemire and A. L. Johnson, *New Eng J Med* 286:970-972 (May 4) 1972

In one decade (1960) to 1970), 1,204 patients were resuscitated by a mobile team in a general hospital, with an overall survival rate to discharge of 19.1%. In the 230 survivors, the survival rate of one year was 74%, at two years 59%, and at three years 51%. In the largest diagnostic group (coronary artery disease), the survival rates were similar, ie, 70%, 55%, 45% at the end of the first, second and third years, respectively. A random study of 15% of the survivors showed that their functional capacity pre- and post-resuscitation was unehanged. Half were under 60 years of age and 80% were under 70.

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*Blood Volume Changes and Transfusion Requirements of Burned Patients After Shock Phase of Injury*
P. Hinton et al, *Lancet* 1:913-915 (April 29) 1972

Blood volume was measured after the shock phase (first 48 hours) in 11 patients with major burns. Normal-to-low blood volumes were found, associated with failure to expand the plasma volume to compensate for a red cell deficit. The volume of transfused blood required to produce clinical evidence of adequate peripheral tissue perfusion exceeded calculated deficits, in some cases caused a higher-than-normal central venous pressure, and resulted in an increase in urinary sodium excretion. Hemoglobin levels bore no relation to blood volume deficits or to transfusion requirements. Chronic underperfusion may be an important cause of persistence of sodium retention following injury. The two most useful guides to transfusion requirements in burned patients after the shock phase are clinical estimation of peripheral tissue perfusion assessed in a warm environment and changes in urinary sodium excretion.

*Lower Urinary Obstruction in Infancy*
S. Tsingoglou and J. A. S. Dickson. *Arch Dis Child* 47:215-217 (April) 1972

One hundred sixty-five consecutive cases of lower urinary obstruction in infancy were seen in one 12-year period. The most common lesions were posterior urethral valves (91), ectopic ureterocele (34), stenosis or atresia of the urethra (8), bladder neck obstruction (6), urethral diverticulum, and pelvic masses, 5 each. There were ten different diagnoses among the remaining 16 cases. An accurate diagnosis was obtained by intravenous pyelography or cystourethrography. The treatment was directed to correction of electrolyte and water disturbances, followed by early relief of the obstruction. The mortality rate was 32.5% for children admitted in the first month of life, and only 8% thereafter, with an overall rate of 18%.

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*Cutaneous Sarcoidosis: Clinical Features and Management*
O. P. Sharma, *Chest* 61:320-325 (April) 1972

Of 145 patients with clinical and histologic evidence of sarcoidosis, 41 (28%) presented with various cutaneous manifestations of the disease. The skin lesions included erythema nodosum in 14 patients, lupus pernio in 6, skin plaques in 9, maculopapular eruptions in 10, and scars in 2 patients. Erythema nodosum was accompanied by early reversible bilateral hilar adenopathy in 64% of patients; x-ray abnormality cleared in 79% of patients. Lupus pernio and skin plaques were associated with a chronic persistent course. Radiologic clearing of the lungs occurred in 22% of patients with skin plaques and in none of the patients with lupus pernio. Unsightly lesions may be corrected by oral and topical corticosteriod therapy. Chloroquine has proved to be effective in selected instances of chronic cutaneous sarcoidosis.

# JOHN ARTHUR SIEGLING, M. D.

## ORTHOPAEDIST

FRED S. WILLIAMS, M.D.*

A special day of appreciation for John Arthur Siegling, M. D., Head of the Department of Orthopaedics at the Medical University of South Carolina, was observed on April 29, 1972.

Dr. Siegling's former and present residents, with the attending orthopaedic staff of the Medical University, honored him on that day for his 30 years of service to orthopaedics in South Carolina.

John Arthur Siegling was born in Charleston, S. C., on March 14, 1907. He attended local schools throughout grade and high school. After receiving his baccalaureate degree from the College of Charleston, he acquired his M.D. degree from the Medical College of the State of South Carolina in 1932. A year of general internship at Roper Hospital followed. Under Dr. K. M. Lynch he served as instructor in pathology and ran a private general practice. During this time plans to become an orthopaedist were completed.

Credit should be given for young Dr. Siegling's wisdom in foreseeing the future of this burgeoning specialty called orthopaedics and, moreover, in recognizing the brilliance of Dallas B. Phemister, under whom he chose to train. So on June 28, 1934, John Siegling left South Carolina for Illinois and the University of Chicago, which at that time was the mecca of orthopaedics in this country. Three years later he had both completed his residency and married his sweetheart of many years, Magdalen K. Haskell of Charleston.

For five years Dr. Siegling practiced orthopaedics at the Carle Clinic in Urbana, Illinois. Then the call of the Carolina Low Country, as well as a position at his medical alma mater in Charleston, drew him back home. In 1953 he became clinical professor of orthopaedics at the Medical College of South Carolina, a position he holds today.

His professional accomplishments are many. He is a member of the Specialty Board of Orthopaedics, the American College of Surgeons, the American Academy of Orthopaedic Surgeons, and the American Orthopaedic Association, whose roster is limited to 150 North American orthopaedists.

Dr. Siegling is a past president of the South Carolina Orthopaedic Association and of the South Carolina Blue Shield; he has served as Secretary of the Roper Hospital Board of Commissioners and as chairman of a State Board of Health's Advisory Committee. Presently, he is orthopaedic consultant to the United States Naval Hospital and to the Veterans Administration Hospital in Charleston. Considerable time and energy are spent in the State's Crippled Children's Program. In addition, Dr. Siegling engages in a busy private practice.

During his productive career Dr. Siegling has found time to publish numerous scientific articles, and he has served as examiner in pathology on the Board of Orthopaedics.

Aside from his accomplishments in medicine, Dr. Siegling's efforts and interests in other areas are noteworthy. He possesses a profound love of music and is an active participant and supporter of various musical groups in Charleston. In this regard, he has been president of the Society for the Preservation of Spirituals and vice-president of the Charleston Symphony.

Drama is another of Dr. Siegling's cultural interests. In undergraduate days he was secretary and later vice-president of the College Dramatic Society. More recently he has

*Medical University of South Carolina, Charleston, S. C.



An Unfinished Portrait of Dr. Siegling

served as president of the Footlight Players, Charleston's oldest Little Theatre group.

Interested in all levels of education, Dr. Siegling has headed the College of Charleston alumni and has served as a trustee of the College of Charleston.

Through the years Dr. Siegling has maintained his boyhood love of the outdoors. Boating, shrimping, and crabbing continue to be relaxing activities for him. His Sullivan's Island beach home, appropriately named *Sans Souci* ("without worry"), is a quiet summer retreat where his three children and ten grandchildren visit.

Although a biography gives some idea of the talents and abilities of the Doctor, one must personally know him to fully appreciate the charm and charisma of the man. He possesses a capacity for work and an enthusiasm for life which are indeed rare and inspiring.

The program for "Siegling Day" was a full one. A surprise morning coffee at which Dr. Siegling found assembled almost all of his 28 former residents began the occasion. Later that morning at Surgical Grand Rounds, an orthopaedic topic of current interest to those in numerous branches of medicine was presented by Dr. Siegling: "The Development of Total Hip Replacement."

The simultaneous replacement of both femoral head and acetabulum by prosthetic components has recently become an accepted treatment for various disorders of the hip and is perhaps the most important advancement in orthopaedic surgery in recent years. Dr. Siegling first cited the goals of all hip surgery:

1. to eliminate pain
2. to correct or decrease deformity
3. to increase mobility
4. to obtain stability

Most prior methods of treatment of hip disorders failed in one or more of these goals. For example, hip fusion, which eliminates pain and affords excellent stability, sacrifices mobility.

Historically Dr. Siegling noted efforts by many physicians to find the ideal solution to hip problems. Hip fusion, cup arthoplasty (a procedure in which a metal cup is placed as interposition material between the diseased femoral head and the acetabulum) and femoral head replacement by a metal prosthesis until rather recently have been in this country the only generally accepted surgical methods of treating certain disorders of the hip.

In 1962 after years of careful work and experimentation John Charnley, a British orthopaedist, began to use, with good clinical results, a method of replacement of both femoral head and acetabulum by prothetic devices.

He uses a stainless steel femoral head component and a high density polyethylene acetabular device. An important aspect of the new procedure is the use of an acrylic substance, methyl methacrylate, which serves to fix the prosthetic components firmly in their relationship to bone. Methyl methacrylate is initially of putty-like consistency, but it can be pressed into the interstices of bone where it hardens within minutes to afford rigid mechanical fixation of the prostheses to bone although there is actually no chemical bond formed between the methyl methacrylate and the bone or prosthetic devices. Since 1962 other

workers have developed with varying degrees of success variations of the materials and the techniques used by Charnley.

Marked relief of pain following surgery is one of the most beneficial aspects of the procedure. Another is the relatively short convalescent period. Partial weight bearing is usually begun within one or two weeks postoperatively, and full weight bearing begins several weeks later.

As with all surgery, complications are possible. Toxic effects from the methyl methacrylate at the time of surgery have been reported. Postoperative dislocation of the prosthetic joint, loosening of the prosthetic device, and wound infection are occasional complications.

The indications for total hip replacement are inexactly defined and are changing as more experience and clinical data are gained. To date its greatest use has been in the older individual affected by osteoarthritis who has disabling disease of both femoral head and acetabulum and who is capable of withstanding major surgery. Rheumatoid arthritis; aseptic necrosis of the femoral head; hip dysplasia; and failure of hip fusion, cup arthroplasty, or prosthetic femoral head replacement are other conditions in which total hip replacement has found usage.

Thus, despite a lack of many years clinical follow-up, so necessary to assay the final worth of a method of treatment, total hip replacement appears to be a significant advancement in hip surgery.

Dr. Siegling's review of total hip development was followed by case and patient presentations of several individuals who had undergone this procedure at the Medical University with gratifying results.

At an evening banquet Dr. Robert M. Paulling, a former resident of the Medical University program and at present a member of the orthopaedic attending staff, reviewed "The History of Orthopaedics at the Medical University of South Carolina." This history was largely an account of the progress of orthopaedics at the Medical University under Dr. Siegling's able and untiring direction.

To the residents and students he has taught, the colleagues with whom he has worked, and surely to the many, many patients for whom he has cared, "Siegling Day" was a sincere expression of appreciation to John Arthur Siegling for an on-going career of accomplishment, dedication and service.

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# A NEWSPAPER ADVERTISING PERSPECTIVE

## CHARLESTON, S. C. 1909

RICHARD G. PUGH*

While rummaging through a landfill one Saturday in Charleston some six years ago, I came across several bound volumes of newsprint. It had rained recently and those on top had sustained the greatest water damage, to the point of obliteration. On the bottom, however, was a volume of Charleston *News and Courier* newspapers covering the first quarter of 1909. What a find! Evidently these originals had been reduced to microfilm and discarded.

From time to time I have used the newspaper for minor research on various subjects ranging from 'What they were wearing (driving, smoking, drinking) in Charleston in 1909', to the political thought of the day. (President Taft was inaugurated during this period and received a full front page spread.) More recently my interest has centered on advertising medical products and health services.

The Federal Food and Drug Administration has launched a project recently to study the efficacy of between 100,000 and 500,000 over-the-counter drug and health aids. The program will take in excess of three years to complete, but at the end of this period specific recommendations will be made concerning the future sale of literally tens of thousands of these items. Evidently, FDA officials have reasons to believe many of these patent medicines fail to live up to their advertising claims.

Every item from headache preparations to nose drops, to skin creams, and iron tonics will have to prove some measure of effectiveness or be withdrawn from the market.

Although there is laxness today in the laws governing the advertising of certain patent medicines (thus necessitating the FDA study), in 1909 there apparently were no rules at all.

The one malady for which products and services were advertised in every issue was VD. This struck me as being just a little odd, having been raised in Charleston and knowing the traditionally conservative nature of the area. Many of the ads were cloaked in secrecy with "mailed directly to you in a plain brown wrapper" pitch; others were more obvious.

During this period, too, there appeared substantial advertising in the *News and Courier* by a clinic in Savannah, Georgia. One can only assume that the "doctors" referred to in the *DR. HATHAWAY and COMPANY* layouts were either naturopaths or chiropractors. Figure 1 illustrates the commonly used technique by Dr. Hathaway of taking a swipe at "inexperienced practitioners" and "would-be specialists" of the day.

At any rate, it is interesting to note that the "private contracted diseases" the good "doctor" refers to in the first paragraph are in all probability venereal by nature. Both Savannah and Charleston, being seaport cities, were having their share of venereal diseases during this period. Up until this time, mercury was the only medically accepted treatment available for syphilitics; arsphenamine and neo-arsphenamine (Salvarsan 606) would not be introduced until late 1909 or early 1910. Very little information can be obtained on treatment for gonorrhea. In this regard then, balms, salves, "new" systems of

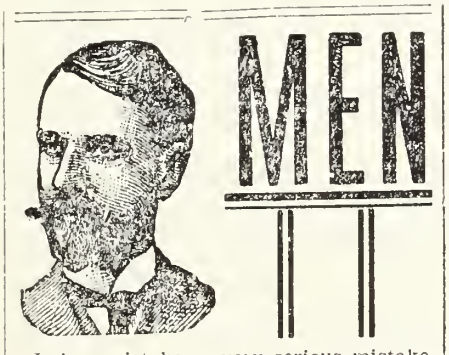
*Staff, South Carolina Medical Association

treatment, and potions were all having a field day with these diseases.

Dr. Hathaway's practice was indeed broad. He claimed ". . . quickest cures for heart, liver, kidney, prostatic or pelvic disorders, varicocele, piles, fistula, chronic constipation", in addition to ". . . diseases peculiar to men" and, of course, the old euphemism for syphilis, "blood poison".

The next two illustrations show the extent of interest shown toward venereal disease by the manufacturers of patent medicines.

No pretenses are made concerning the purpose of this over-the-counter item. The word injection stumped me for a minute until guessing that this term probably referred to intra-urethral placement of this concoction. Notice too, the spelling of gonorrhea.




It is a mistake, a very serious mistake, a waste of time and money and cause of needless suffering to depend upon local doctors and patent medicines for private contracted diseases.

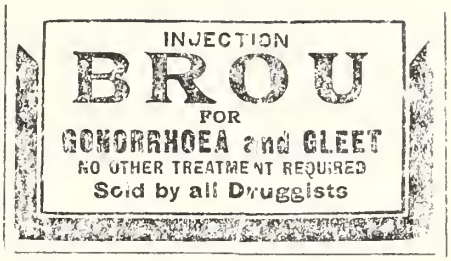
Often we are called upon to correct the mistake of inexperienced practitioners and would-be specialists after the disease has had such a start that it is almost impossible to stamp it out.

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**509 National Bank Building,**
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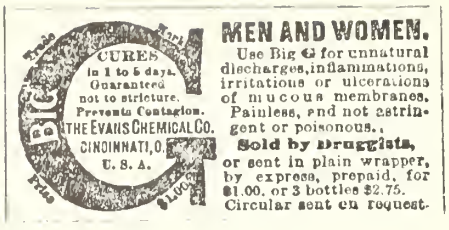



The popular slang term of the day for GC was "gleet", as it is in some areas of the country now. Today gonorrhea has a great many additional nicknames . . . clap, dose, drip, strain, whites, morning glory, morning dew, running range . . . to name a few! Once a victim diagnosed himself and a druggist sold him *BROU*, then there would be "No other treatment required".

In figure 3 the preparation *BIG G* was presented too, as a treatment for gonorrhea. This Cincinnati based firm guaranteed quick cures but also assured the user that the product was safe ". . . Guaranteed not to stricture". This meant that other preparations for treating this disease, perhaps even *BROU*, might cause urethral stricturing. What of the statement ". . . not astringent or poisonous"?

An item that possibly might go unnoticed in the *BIG G* advertisement was the statement "prevents contagion". Could this possibly mean that this drug might be used prophylactically? These and other questions may never be answered, though the answers may appear to be obvious.

A bottle of *BOTANIC BLOOD BALM (BBB)*, Figure 4, was probably the best buy of all times if you could believe the advertisement! There was one medicine . . . balm, if you will. . . . that was promoted to cure every kind of disease known to man! No disease could stand up to its botanic cleansing ingredients! Ills such as skin disorders — even cancer — arthritis, alopecia, acne, pruritis, otitis (even old stubborn cases), and spitting could be cured. The primary, secondary and tertiary blood poison were of course, stages of syphilis, which came and went, more or less with or without medication of any kind.




No mention was made however, of the roughest stage of "blood poison" . . . the stage where the victim beeame blind, lame, or insane.

Advertisements other than those eoncerning VD that routinely appeared throughout the issues were:

*Dr. Bull's Cough Syrup* — Guaranteed to eure eonsumption and catarrh.

*Tutt's Pills* ". . . has speeific effeet on sluggish bowels, weak kidneys and bladder, and TORPID LIVER".

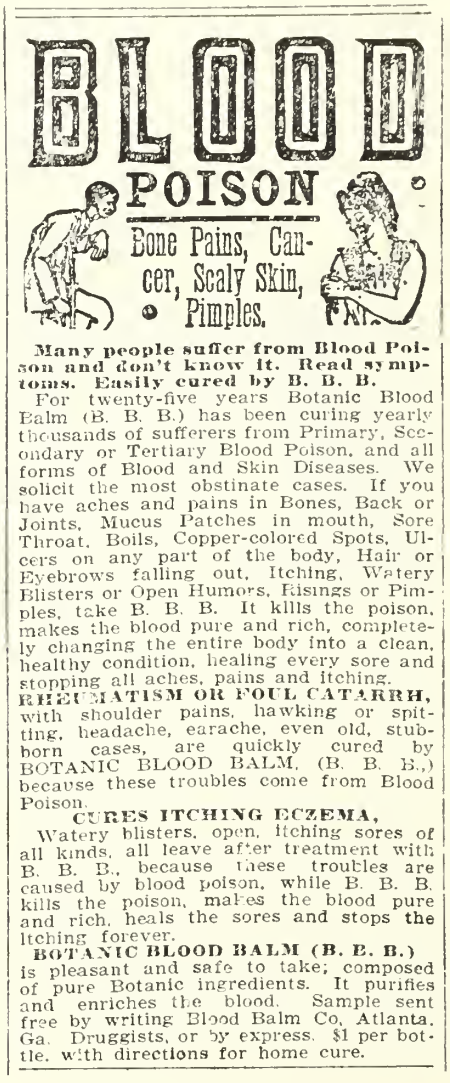
*Chichester's Pills* "Pills in red and gold metalic boxes sealed with blue ribbon" . . . This ad doesn't say what the pills are supposed to do.

*Hostetter's Bitters* ". . . it is for dyspepsia, indigestion, bloating, biliousness, kidney ills, insomnia, colds, grippe, malaria, fever and ague."

A preparation manufactured by the Cooper Medicine Company out of Dayton, Ohio, called "*Cooper's New Discovery*" frequently ran large testimonial ads. As one man testified, his doctor had put him in the hospital with what the man said was consumption. After reading of Mr. Cooper's *Discovery*, ". . . one day I left the hospital and got his treatment and . . ." *total health!* Another endorsement was from a northerner who said he was so sick that when a friend who had been taking the elixir urged him to try the *New Discovery*, ". . . I was too sick to argue. . ." He's well now and living in Brooklyn!

I found it very entertaining to study these advertisements over 63 years after publication. It has been suggested to me, however, that in the year 2035 (just 63 years from now) that today's advertising will appear just as humorous.

What will be the response then to the popular television commercial of today where the little guy in the restaurant gestures enthusiastically, "TRY IT, YOU'LL LIKE IT"!



# Editorial

### Editorial Stop Gap

The removal of Dr. Buckland Thomas from the state has left the *Journal* without an editor. Council has been faced with the task of finding a replacement on short notice. As a temporary expedient it has asked the editor preceding Dr. Thomas to fill the gap. So the old horse comes back from pasture for a short run on the old route.

By the time this reaches print, it is likely that a new editor will have been elected. It is expected that he will meet certain desirable requirements. Without intending to invite any personal comment, the temporary editor has amused himself by setting down what he considers to be desirable traits for the editor of a state medical journal. It is hoped that they will be met largely in the person of the new incumbent, to whom all good wishes are tendered.

Our editor should be mature, tactful, a practitioner of one of the less restricted fields of medicine, unbiased, non political. He should be familiar to a degree with medical journalistic literature and have some literary flare and an ability in writing.

He should be familiar with overall official activities of the Association, have some arrangement with some institution or library, which can furnish the necessary references, check bibliographies and be a possible source of articles (a large number of our scientific papers come from the Medical University of South Carolina).

He requires some knowledge of the technical side of printing as regards type faces, composition, proofreading etc.

The best editor requires a competent assistant to take care of details, but he must be willing to devote a considerable amount of time to his work.

These qualities may not all be united in one person. Certainly the majority of them are essential to smooth operation.

Joseph I. Waring, M.D.

The Journal of the South Carolina Medical Association

## 50 YEARS AGO

### July, 1922

The Seventh District Medical Society held a most successful meeting with a large attendance. An article in the Department of Obstetrics and Gynecology noted that South Carolina had the highest maternal death rate of any of the states. There was some comment on an article on saeral anaesthesia by Dr. James A. Ravenel of Charleston.

## SCMA — New Members

**Dr. Billy R. Blackwell**
376 W. Palmetto St.
Florence, S. C. 29501
**Dr. John W. Brown**
2719 Middleburg Dr.
Columbia, S. C. 29204
**Dr. Robert D. Capell**
Cedar Rock St.
Pickens, S. C. 29671
**Dr. Norman Cooper**
80 Barre St.
Charleston, S. C. 29401
**Dr. E. Eugene Epting, Jr.**
Newberry, S. C. 29108
**Dr. Hans K. Habermeier**
145 W. Cheves St.
Florence, S. C. 29501
**Dr. Kim A. Keeley**
80 Barre St.
Charleston, S. C. 29401
**Dr. Henry C. Martin**
1525 N. Fant
Anderson, S. C. 29621
**Dr. Edward C. Mattison**
1530 N. Fant
Anderson, S. C. 29621
**Dr. James C. Owens**
2757 Laurel St.
Columbia, S. C. 29204
**Dr. William S. Powell**
80 Barre St.
Charleston, S. C. 29401
**Dr. Benjamin C. Riggs**
80 Barre St.
Charleston, S. C. 29401
**Dr. Robert C. Schnackenberg**
Drawer 119
Columbia, S. C. 29202
**Dr. Robert M. Scoville**
103 Dotson St.
Rock Hill, S. C. 29730

PHYSICIAN DESIRES EMPLOYMENT August 1 - December 31, 1972. One year internal medicine training completed. Willing to do emergency room work or general practice, preferably without obstetrics. For further information write Box A, SCMA, 113 North Coit Street, Florence, S. C. 29501.

# NEW FOR ULCER...
# LIQUID MYLANTA®-II

## GREATER NEUTRALIZING IMPACT

- ☐ more neutralizing action per teaspoonful than standard antacids
- ☐ without the acid rebound associated with calcium carbonate
- ☐ pleasant tasting / rapidly effective
- ☐ non-constipating / non-laxating

**MYLANTA®-II LIQUID**

aluminum and magnesium hydroxides plus simethicone

## NEW HIGH POTENCY ANTACID FOR RELIEF OF ULCER PAIN

STUART PHARMACEUTICALS | Division of ICI America Inc. | Wilmington, Del. 19899 | Pasadena, Calif. 91109

# Femininity & Vaginitis



Many women still believe that a douche is a cure-all for vaginal secretions and malodor. Mother to daughter and the myth is perpetuated.

Other cosmetic products are not much better. Though they may be effective in some minor infections, they cannot touch the real medical problem, which very often is trichomonal vaginitis.

Medicine's most effective cure for trichomonal vaginitis is Flagyl® (metronidazole). It is also pleasantly feminine because it provides the simplicity of oral medication . . . frees women from the unpleasant mess and bother of douches.

When the problem is trichomonal vaginitis . . . remember Flagyl. It cures trichomoniasis with an unmatched high degree of effectiveness.

Flagyl is indicated for the treatment of trichomoniasis in both male and female patients and the sexual partners of patients with a recurrence of the infection provided trichomonads have been demonstrated by wet smear or culture.



# Flagyl®

brand of (metronidazole)



**Indications:** For the treatment of trichomoniasis in both male and female patients and the sexual partners of patients with a recurrence of the infection provided trichomonads have been demonstrated by wet smear or culture. The oral form is indicated also for intestinal amebiasis and amebic liver abscess.

**Contraindications:** Evidence or history of blood dyscrasia, active organic disease of the CNS, the first trimester of pregnancy and a history of hypersensitivity to metronidazole.

**Warnings:** Use with discretion during the second and third trimesters of pregnancy and restrict to those pregnant patients not cured by topical measures. Flagyl (metronidazole) is secreted in the breast milk of nursing mothers. It is not known whether this can be injurious to the newborn.

**Precautions:** Mild leukopenia has been reported during Flagyl use; total and differential leukocyte counts are recommended before and after treatment with the drug, especially if a second course is necessary. Avoid alcoholic beverages during Flagyl therapy because abdominal cramps, vomiting and flushing may occur. Discontinue Flagyl promptly if abnormal neurologic signs occur. Exacerbation of moniliasis may occur. In amebic liver abscess, aspirate pus during metronidazole therapy.

**Adverse Reactions:** Nausea, headache, anorexia, vomiting, diarrhea, epigastric distress, abdominal cramping, constipation, a metallic, sharp and unpleasant taste, furry or sore tongue, glossitis and stomatitis possibly associated with a sudden overgrowth of *Monilia*, exacerbation of vaginal moniliasis, an occasional reversible moderate leukopenia, dizziness, vertigo, incoordination and ataxia, numbness or paresthesia of an extremity, fleeting joint pains, confusion, irritability, depression, insomnia, mild erythematous eruptions, "weakness," urticaria, flushing, dryness of the mouth, vagina or vulva, pruritus, dysuria, cystitis, a sense of pelvic pressure, dyspareunia, fever, polyuria, incontinence, decrease of libido, nasal congestion, proctitis, pyuria and darkened urine have occurred in patients receiving the drug. Patients receiving Flagyl may experience abdominal distress, nausea, vomiting or headache if alcoholic beverages are consumed. The taste of alcoholic beverages may also be modified. Flattening of the T wave may be seen in EKG tracings.

**Dosage and Administration**

*For Trichomoniasis. In the Female:* One 250-mg. tablet orally three times daily for ten days. Courses may be repeated if required in especially stubborn cases; in such patients an interval of four to six weeks between courses and total and differential leukocyte counts before, during, and after treatment are recommended. Vaginal inserts of 500 mg. are available for use, particularly in stubborn cases. *When the vaginal inserts are used,* one 500-mg. insert is placed high in the vaginal vault each day for ten days and the oral dosage is reduced to two 250-mg. tablets daily during the ten-day course of treatment. Do not use the vaginal inserts as the sole form of therapy. *In the Male:* Prescribe Flagyl only when trichomonads are demonstrated in the urogenital tract, one 250-mg. tablet two times daily for ten days. Flagyl should be taken by both partners over the same ten-day period when it is prescribed for the male in conjunction with the treatment of his female partner.

*For Amebiasis. Adults:* For acute intestinal amebiasis, 750 mg. orally three times daily for 5 to 10 days. For amebic liver abscess, 500 to 750 mg. orally three times daily for 5 to 10 days.

*Children:* 35 to 50 mg./kg. of body weight/24 hours, divided into three doses, orally for ten days.

**Dosage forms:** Oral tablets 250 mg.
Vaginal inserts 500 mg.

**Flagyl®** (metronidazole)

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San Juan, Puerto Rico 00936

Address medical inquiries to:
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*Research in the Service of Medicine*

# DYAZIDE®

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Each capsule contains 50 mg. of Dyrenium®
(brand of triamterene) and 25 mg. of hydrochlorothiazide.

# CAN STOP POTASSIUM DEPLETION BEFORE IT STARTS

# WITH NO SACRIFICE OF THIAZIDE EFFECTIVENESS

Before prescribing, see complete prescribing information in SK&F literature or *PDR*.

*Indications: Edema associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. Also, mild to moderate hypertension.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired. Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

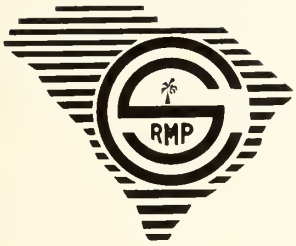
Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Rarely, necrotizing vasculitis, paresthesias, icterus, pancreatitis, and xanthopsia have occurred with thiazides alone.

Supplied: Bottles of 100 capsules.

SK&F CO.
Carolina, P.R. 00630
*a subsidiary of Smith Kline & French Laboratories*

# IN EDEMA*—IN HYPERTENSION*




SOUTH CAROLINA REGIONAL MEDICAL PROGRAM

VINCE MOSELEY, M.D., Coordinator

# THE SOUTH CAROLINA REGIONAL MEDICAL PROGRAM PLAN FOR MANPOWER EXTENSION, AND FOR THE REGIONALIZATION OF SERVICES AND RESOURCES TO IMPROVE HEALTH CARE

The Regional Medical Program in South Carolina is being greatly expanded in efforts involving health manpower development, primary health care development patterns and regionalization of health facilities, manpower and other resources. This article outlines how SCRMP proposes to handle its broader function.

After consideration of the health needs and manpower deficiencies at professional, technical and occupational levels in South Carolina, the Regional Advisory Group at its Annual Meeting on December 9, 1970 adopted the following statement:

"The South Carolina Regional Medical Program is to continue programs for physicians, dentists, nurses, technical, allied health professional and occupational groups, directed towards improving patient care by continuing education and demonstration programs for the improvement of health manpower, the demonstration and encouragement of new techniques for diagnosis and treatment, programs for the improvement of facilities, particularly community hospitals, and research and training in methods to improve the delivery of health services and care. In addition to devoting attention to disease areas of primary concern — heart disease, cancer, and stroke, kidney disease and other related diseases — these programs are to utilize the specifically identified resources and linkages in ways that will deal effectively with such problems as cost control, increased accessibility, improved communications, and improved standards. Through the Medical District Committees of the Regional Medical Program, and their committee relationships in liaison with agencies concerned with planning or administration of health eare programs, data are to be developed which will lead to assistance in proper planning and priority setting in respect to specific population and geographic needs. In order to assist in cost eontrol, emphasis is to be specifically directed toward programs which will provide for early case finding, early diagnosis, ambulatory care, and preventive medicine in its broadest sense. Efforts to improve nutrition and emergency medical services are additionally recognized as objectives."

A New Mission Statement for Regional Medical Programs was adopted by the National Advisory Council in June 1971. According to this, RMP is a "functioning and action-oriented consortium of providers responsive to health needs and problems. It is a framework within which all providers can come together to meet health needs that cannot be met by individual practitioners, health professionals, hospitals and other institutions acting alone. It also is designed to take into account local resources, patterns of practice and referrals, and needs. As such, it is a potentially important force for bringing about and assisting with changes in the provision of personal health services and care."

Meeting in Myrtle Beach April 29-30, 1972, the SCRMP's Regional Advisory Group authorized the organization to broaden its goals in the following in order to: support planning and organization of community based health education programs; promote and plan for physician assistant training projects; support an expanded role of the nurse; coordinate reeruitment and plaeement for new professional categories; evaluate impact and performance of new types of personnel; encourage manpower surveys and recruitment programs; develop health professional career opportunities for minority groups; develop and implement in-service education programs to establish career ladders and to upgrade the performance of existing health personnel.

Also, that a mechanism be established for con-



**SCRMP officials confer with Dr. Harold Margulies, Director of Regional Medical Programs Service, Washington, D. C., during recent Advisory Group meeting in Myrtle Beach that resulted in an expanded health care development role for SCRMP. Shown are (left to right): Dr. Charles P. Summerall, III, associate coordinator; Dr. Vince Moseley, coordinator; Dr. Margulies and Dr. James W. Colbert, Jr., chairman of SCRMP's Advisory Group.**

tinuing cooperative regional studies and modification of the obstacles that discourage physicians from entering and remaining active in primary community practice of medicine, obstacles and opportunities that influence primary care roles for nurses and other paramedical personnel and obstacles to ambulatory care imposed by third party payment; encourage use of a recently developed Problem Oriented Medical Record; design systems of public information regarding available health services and personal preventive health measures, support emergency medical services through education programs and demonstration projects; reduce infant mortality in minority populations, especially through development of prenatal care services and nurse midwifery programs.

Additionally, that shared bioengineering services programs be developed to provide improved safety, reliability and efficiency in hospitals, clinics and practitioners' offices; conduct studies on the development of facilities or programs for economical domiciliary care for the incapacitated, particularly the elderly; determine specialized services that are appropriate, needed and available and through linking of facilities achieve the maximum amount of cooperation among hospitals and institutions.

And that SCRMP be prepared to work in cooperation with appropriate professional societies who express an interest in exploring alternative care delivery systems and that SCRMP assist appropriate professional associations in developing programs assuring quality health care.

Broadening of SCRMP's efforts in health care delivery represents an expansion of the initial concept of RMP as a vehicle to speed the flow of scientific knowledge to health providers in connection with heart disease, cancer, stroke, and related diseases.

The staff of the South Carolina Regional Medical Program has been directed to assist all project and program directors of current operational SCRMP programs in extending their service, and to assist applicants for new projects to focus their activities along the broader lines of enhancing the availability and quality of health care.

The principal objectives of the SCRMP staff, in accordance with National Advisory Council Mission statements and the Regional Advisory Group, are to:

1. Promote demonstrations among providers at the local level of both new techniques and innovative delivery patterns for improving the accessibility, efficiency and effectiveness of health care.
2. Stimulate and support those activities that will both help existing health manpower to provide more and better care, and will result in the more effective utilization and distribution of new kinds (or combinations) of health manpower. Further, to do this in a way that will ensure that professional and technical activities of all kinds (e.g. informational, training) lead to professional growth and development, and are appropriately placed within the context of medical practice and the community, by assisting with the development of Community Based Education Programs, and with programs for the implementation of the National Emergency Health Personnel Act.
3. Encourage providers to accept and enable them to initiate regionalization of health facilities, manpower, and other resources so that more appropriate and better care will be accessible and available at the local and regional levels. In fields where there are marked scarcities of resources, such as kidney disease, particular stress will be placed on regionalization so that the costs of such care may be moderated.
4. Identify, develop, and facilitate the implementation of new and specific mechanisms that provide quality control and improved standards of care. Such quality guidelines and performance review mechanisms will be required, especially in relation to new and more effective comprehensive systems of health services, and by recent legislation and draft guidelines will be necessary if RMP is to play its role in health manpower training, emergency medical services, areawide health education, and the monitoring of quality of care in HMO's and experimental health delivery systems.

In considering the health manpower and other service deficits in South Carolina, it is very apparent that in addition to numerical deficiencies, distribution problems are of considerable magnitude.

Despite the fact that the Medical University of South Carolina is rapidly expanding

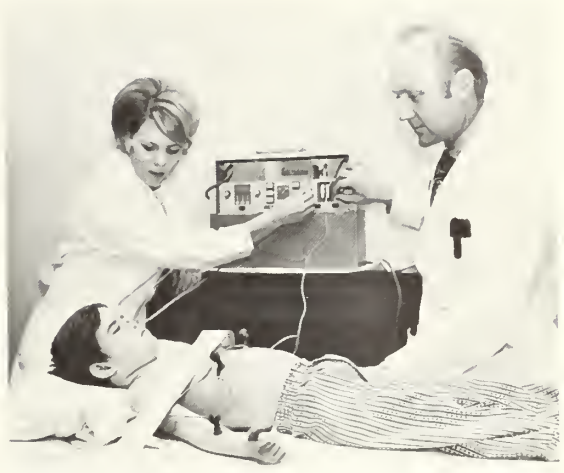
its classes in the several Colleges, not only through on-campus programs but by consortia extending its undergraduate academic training into several community hospitals throughout the State, it is evident that this will be accompanied by a considerable time lag, and that other ways to deal with the professional manpower shortages and other immediate problems must be developed. Among these are an extension of existing manpower resources at all levels by:

1. Utilization of assistants and new types of personnel;
2. Better coordination of transportation and communications for consultation, instruction and referral;
3. Application and more widespread utilization of new technology;
4. Improved resources sharing throughout the Region through program planning.

It was pointed out by the RAG in December, 1970, however, that in order to procure better planning and a more systematic utilization and application of a variety of data, including socio-economic data, to assure priority of effort, evaluation of efforts, and perspectives as to alternatives, would require the expansion and development of appropriate and qualified staff. As a result of this, the Regional Advisory Group approved the use of Developmental Component Funds for an advanced planning study. Out of this study has developed the following concept for the co-



**Nurses receive updated coronary care training through courses supported by the S. C. Regional Medical Program. Shown are (left to right): Sandra Harrington, R.N., Kingstree; Linda Beaty, R.N., Myrtle Beach; Lillian White, R.N., James Island; Mary Weaver, R.N., Walterboro; Dr. Peter C. Gazes and Jan Herod, of the Medical University of S. C. Division of Cardiology.**



**The SCRMP supported statewide Children's Heart Screening Program is carried out by Dr. Arno Hohn (right), Medical University of S. C. Hospital, assisted by Miss Julia Breeden.**

ordination and implementation of these several and related activities in the Region, including combining funds from other agencies or foundations, both public and private, with those of RMP for study or operational grant purposes.

**CONCEPT:**

It is evident that for an effective regional or statewide program to be developed, and in consideration of other new program activities now being developed or supported by Federal appropriations, that an overall coordinating body for the entire State should be developed to which the Regional Medical Program can effectively relate at the Regional level. In addition to its established subregion or community relationships with regional councils, CHP-(b) agencies, Appalachia, Model Cities, Coastal Plains, and other health planning bodies or councils, the SCRMP now has effective sub-regional operations. At the State level, however, and particularly in view of the compactness of the entire State in geography, transportation and communications, a regional systems and program planning resource is urgently needed.

This is needed for full community of effort in order to provide for true regionalization of resources and regional planning. Currently, there is no overall coordination or single resource for service to assist community or subregional area planning activities or to assist or develop regionalization linkages for im-



**Introducing new technology is an important part of the expanded SCRMP mission. An example is linking community hospitals by telephone to major medical centers for coronary care consultations. Above, Mary Harrelson, R.N., sends heart patient's electrocardiogram (EKG) from Dorchester County Hospital, Summerville, to the Medical University of S. C. Hospital's CCU by telephone.**

provement of health care by systems approaches, or to regionalize communication and consultative activities for health services.

The staff of the South Carolina Regional Medical Program is currently providing to some degree such coordination of effort, as was demonstrated in the package presentation of the several grant applications submitted as a program for the improvement of health manpower through Physician Assistants Training Programs and consolidated as a combined grant application to the National Center for Health Services Research and Development and to the Health Manpower Bureau of the NIH and more recently for a similar coordination in respect to developing a community based health education center linkage for several related projects involving several community hospitals.

It is also evident that such statewide coordination of effort is immediately needed in view of the statements and recommendations made in the Public Laws for the administration of the Emergency Employment Assistance Act of 1971 (PL 92-54), the Comprehensive Health Manpower Training Act of 1971 (PL 92-54), and the Nurse Training Act of 1971 (PL 92-577), the National Center for Health Services Research and Development application guidelines and those developed by the Regional Medical Programs Service and the NIH for Areawide or Community Health Education Centers.

To approve, establish local guidelines, monitor and evaluate such activities a Regional Planning Committee of the RAG is to be organized in order to involve in its deliberations a number of health-related agencies, professional association representatives, governmental representatives, educational institution representatives, members of the public, representatives of CHP bodies, and the members of the Medical Districts Committee, of whom the majority are now representative RAG members.

This resource will also provide guidance for Program staff to be recruited by SCRMP in order to be capable of providing the consultative staff support needed by community health study groups.

The expanded activities of SCRMP program staff, will be directed towards coordination of manpower training, coordination of continuing education, program planning and development, systems analysis, provision of appropriate consultation in a variety of socio-economic areas needed in health planning, and for the development of demonstration or experimental programs and the evaluation of these, and especially to serve as an agency for assistance in program planning with individual community efforts to provide for an overall regional strategy.

One may ask if the present SCRMP staff is not in some sense providing for these sorts of activities now. The answer is Yes, but only in a limited degree.

The projects of the South Carolina Regional Medical Program, though initially in 1968 and until 1970 almost entirely categorically oriented, have broadened. This occurred rapidly for most as soon as project directors knew that their efforts could be expanded beyond the strictly categorical and narrower areas of care. The Program Staff has also sought to guide applicants for new projects especially to design and expand the services of currently exsiting personnel through new technology, have promoted the re-training of personnel, and have consulted with others interested in new arrangements for the

*"The history of science, and in particular the history of medicine...is... the history of man's reactions to the truth, the history of the gradual revelation of truth, the history of the gradual liberation of our minds from darkness and prejudice."*

*—George Sarton, from "The History of Medicine Versus the History of Art"*

# Would it be useful in clinical practice to have government predetermine drugs of choice?

# Opinion

Results of a survey of physicians:

13.3%
Yes, it would be useful.

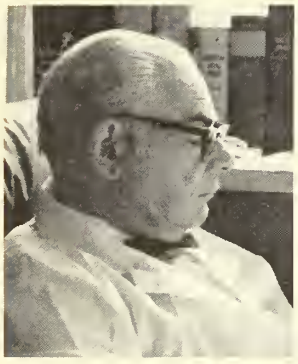
86.7%
No, it would not be useful.

# Dialogue

# Would it be useful in clinical practice to have government predetermine drugs of choice?

## Doctor of Medicine

Walter Modell, M.D.,
Professor of Pharmacology,
Cornell University
Medical College,
Editor,
Clinical Pharmacology
& Therapeutics,
Drugs of Choice,
Rational Drug Therapy



The proposition that government should determine one or two "drugs of choice" within a given therapeutic class reflects the belief that a similarity in molecular structure insures a close similarity in pharmacologic effect. But this is by no means the rule. An obvious example would be in the field of diuretics, where a small change in chemical structure accounts for substantial differences in concomitant effects such as potassium excretion.

Any attempt to dictate the "drug of choice" would be complicated by the fact that some populations demonstrate a bimodal distribution in their reaction to drugs. If the data on drug response are mixed for the total population, one drug will appear to be as useful as the other. But if drug response is reported separately for different segments of the population, drug A will be found to be better for one group and drug B for the other.

It may, of course, be possible to determine drugs of choice in particular categories on a broad statistical basis. But there are always certain patients in whom a drug produces odd, unpredictable or idiosyncratic reactions. So, though a drug might statistically be the most useful one in a given situation, individual variations in response might make it the *incorrect* one.

The point I wish to make is that if two, three, four or more drugs in one class are of approximately equal merit, that in itself is justification for their availability. Exceptional cases do arise in which one drug would be useful to a certain segment of the population and another drug would be of no use at all. In the practice of medicine, the physician must be prepared to treat the routine as well as the unusual case.

Another objection to the determination of a drug of choice is that precise statements of *relative* efficacy are very difficult to make—much more difficult than statements of efficacy. For example, in testing drug efficacy, it is easy to determine the difference between a drug that is effective in treating a condition and one that is not at all effective. Thus, it is fairly easy to determine whether a drug is more effective than a placebo. But if you compare one drug that is effective with another drug that is also effective, and the relative differences between them are very slight, statements of relative efficacy may be very difficult to make with assurance.

I do not mean to imply that relative efficacy statements are not useful or can never be made. With some groups of drugs (e.g., analgesics), extensive study and precise methodology have yielded useful information on relative efficacy. But in most situations, such information can be acquired only through studies encompassing three to five years of use in many more patients than are used to compare drugs with a placebo for the introduction of a drug into commerce. It is really only after practitioners use a drug extensively that relative safety and efficacy in practice can really b determined.

The Bureau of Drugs h suggested the package i sert as a possible means communicating informati on relative efficacy of dru to the physician. I find th objectionable, since I d not believe the physici should have to rely on th source for final scientif truth. There is also a pra tical objection: Since fe physicians actually di pense drugs, they seldo see the package insert. I any event, I would mai tain that the physicia should know what drug h wants and why without d pending on the governme or the manufacturer to te him.

Undoubtedly, physician are swamped by excessi numbers of drugs in son therapeutic categories. Ar I am well aware that mar drugs within such cat gories could be eliminate without any loss, or pe haps even some profit, t the practice of medicin But, in my opinion, neith the FDA nor any oth single group has the expe tise and the wisdom nece sary to determine the o "drug of choice" in a areas of medical practice.

# Maker of Medicine

Kenneth G. Kohlstaedt, M.D.,
Vice President,
Medical Research,
Eli Lilly and Company



In my opinion, it is not the function of any government or private regulatory agency to designate a "drug of choice." This determination should be made by the physician after he has received full information on the properties of a drug, and then it will be based on his experience with this drug and his knowledge of the individual patient who is receiving treatment.

If an evaluation of comparative efficacy were to be made particularly by government, at the time a new drug is being approved for marketing, it would be a disservice to medicine and thus to the patient and the consumer. For example, when a new therapeutic agent is introduced, on the basis of limited knowledge, it may be considered to be more potent, more effective, or safer than products already on the market. Conceivably, at this time the new drug could be labeled "the drug of choice." But as additional clinical experience is accumulated, new evidence may become available. Later it may be apparent that the established products should not be so easily dismissed.

Variation in patient response to drugs constitutes one of the major obstacles to the determination of "drugs of choice." We are just beginning to open the door on pharmacogenetics, but it is evident that genetic differences cause wide variations in the way drugs are absorbed, metabolized, etc. This fact alone is sufficient to make unrealistic the idea that there is one drug in each class to be used for every human being.

The problem of determining relative drug efficacy is an extremely complicated one. Comparison with other drugs of the same class should not be a prerequisite for marketing a new substance. In some therapeutic areas, it may be difficult to make accurate comparisons. For example, in the treatment of infections it is not possible to conduct crossover studies. Recovery may be influenced by factors which cannot be controlled or measured, i.e., natural host resistance and virulence of infective agents. A drug's acceptability must often be judged on the basis of its own performance, and this may be limited to experience in a relatively small patient population. If the introduction of a new drug must await the adequate establishment of relative efficacy, the duration of clinical trial and extent of studies would be greatly prolonged, particularly for rare or unusual conditions. The availability of a new drug would be delayed. Many patients might suffer needlessly and lives might be lost.

Relative efficacy can best be established by experience in a general patient population through regular channels of clinical practice. The physician considers the patient as a whole, which means the patient often has multiple problems and drugs must be selected with this in mind. Hence, a "drug of choice" in an uncomplicated case may not be the best drug for a patient with associated problems. Publication of well-controlled studies in medical journals may provide comparative evidence; discussions at medical meetings, presentations at postgraduate courses, and the new audiovisual technology may bring evidence to physicians on comparative therapy. In a free medical marketplace, a drug that does not measure up will fall into disuse. For example, broad clinical experience has established vitamin $B_{12}$ as the "drug of choice" for the treatment of primary pernicious anemia. No amount of advertising or promotional effort by the manufacturer could increase the use of liver extract for this anemia. However, a physician may wish to employ parenteral liver preparations for a special purpose.

In the field of surgery, peer review in the hospital has brought significant improvement in the use of new techniques and procedures. Something of this nature would be useful in the area of drug therapy. However, it should be developed by the medical profession itself and would necessitate, for its proper function, an improvement in the dissemination of reliable data on clinical pharmacology of drugs under consideration.

Ideally, information on the relative efficacy of drugs should be gathered and assessed by the physicians who actually administer the specific agents to a specific patient population. To do this, they will need even more information on the drugs they use — information that the pharmaceutical manufacturers must begin to provide if government regulation of *"drugs of choice"* is to be avoided.

## Opinion & Dialogue

**What is your opinion, doctor?**
**Send us your comments on the above issue.**

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delivery of services. Ambulant care and services to isolated or deprived areas have been encouraged, and financially aided to improve communications. Educational supports for professional and technical groups have been extensively and assiduously organized and supported, particularly attempting via our Education Service ETV-Telephone System and other communications systems to support the MUSC to provide education to improve services and care at the community level, and provide this in ways requiring as little loss of time as possible for those receiving this instruction to be away from their everyday professional practice.

We are now attempting to assist others to utilize funds other than RMP funds that are now becoming available through the Emergency Employment Assistance Act of 1971 (PL 94-54), and the Health Manpower Training Act of 1971, both the Comprehensive Act (92-578) and the Nurses Training Act (92-577), to further these sorts of activities, and especially to focus these in selected hospitals where expanded regional services and supporting services for adjacent smaller hospitals can be established through the Community-Based Health Education Center type concept and expanded hospital service linkages.

As we look at what is needed, let us consider what the Community-Based Health Education facility for expanded manpower can do with funds which are being made available by the Congressional Acts previously mentioned.

We are learning from our Medical District Committees what the community wishes and health needs are. There is, however, no truly coordinating body statewide now to assist and able to serve in expanding or coordinating efforts except as our Regional Advisory Group and its committees do now; these can and should assist more widely. Likewise, sources for systems planning, evaluation, program planning, analysis of various data, essential for any plan with long-range prospects, do not exist in a coordinated way through which priority setting, evaluations, and the development of alternatives and the promotion of educational and informational materials can be skillfully focused to promote changes or new ways for communities in an overall sense, or to prevent duplication through the promotion of sharing of resources and facilities.

Past attempts to provide certain of these consultation services by or through our Regional Office Program Staff, have been limited by force of various circumstances, such as funding and the time available beyond that required by on-going operations and development.

Other agencies, with certain of these capabilities, are likewise limited to institutional needs, and thus at many community levels, decisions are too often taken without the benefit of exact data or the sort of guidance needed for sound planning and for alternative approaches, and often with duplicative efforts.

We believe, therefore, that South Carolina can profit from a strong committee of the RAG made up of individual members who have of themselves each appropriate stature, reasonable authority, sufficient autonomy, and political impact, and who can establish by prestige and leadership recognition plans for better coordination and use of funds and grants to work at the State level with community interests in developing programs and systematic approaches to deal with local problems, but yet prevent these from being too isolated; but rather to be able to encourage linkages and resource sharing with some authoritative backup. This will not only better utilize SCRMP funds available for improving community health care, but will assist program development with funds from other sources.

Such a committee will need supporting staff capable of providing studies and research to improve community health, and, in addition, by an appropriate staff section act to guide educational activities needed in curriculum and program planning for community-based health education activities to promote expansion of non-professional manpower, more uniformity of curriculum and training, and transferability of training experiences by recognition of or certification of academic equivalency for technical and oc-



**A Poison-Drug Information Center at the Medical University is supported by SCRMP. Above, Sidney Smith, a pharmacist in the MUSC Hospital's Department of Pharmaceutical Services, checks information received from a computer in responding to a telephone query concerning poison or drug information.**

cupational level personnel within the Region, and thus simultaneously expand training to increase the availability of services and health care, along with improved employment and advancement opportunities.

It is only by such coordination of effort that dead-ending in the health service professional or occupational fields can be prevented, that career opportunities can be opened, and that able people can be maintained in employment as a result of improved career opportunity in the health service fields.

It will be only through such efforts that the turnover rate of some skilled and semi-skilled employees in health facilities can be abated, and that job barriers can be penetrated so that occupational and educational ladders can be achieved. Only in this way can the staff workers of smaller hospitals be assured opportunities for staff advancements and receive the sorts of continuing education needed to become and remain effective aides or assistants to expand the efforts of the now limited number of health professionals, which latter groups, despite all efforts by professional schools will continue in short supply for many years.

We have advised the Governor's Office and the Commission on Higher Education of our current plans to develop this concept of regionalization of effort by expanding the membership of the Medical Districts Committee. Through this same mechanism, better coordination of all State agencies relating to the health field we believe can be achieved, as well as better utilization of all our educational resources in the various colleges in our State, community and private institutions, including those of the Medical University, and our technical as well as general educational facilities.

This newly expanded committee will exert its efforts to improve health manpower needs by activities which:

"A. Encourage the establishment or maintenance of programs to alleviate shortages of health personnel in areas, designated, through training or retraining such personnel in facilities located in such areas, or to otherwise improve the distribution of health personnel by area or by specialty group;

"B. To provide training programs leading to more efficient utilization of health personnel;

"C. To initiate new types and patterns or improve existing patterns of training, retraining, continuing education, and advanced training of health personnel, including teachers, administrators, specialists, and para-professionals (particularly physicians assistants, dental therapists, and pediatric nurse practitioners);

"D. To encourage new or more effective approaches to the organization and delivery of health services through training individuals in the use of the team approach to delivery of health services and otherwise;

"E. To assist State, local, or other regional arrangements among schools and related organizations and institutions; and

"F. To promote regionalization of services through improved communications involving the SCRMP MUSC 11-Hospital Network, in cooperation with the State ETV and telephone system and other MUSC communication resources."

We hope members of an expanded Medical District Committee to improve Community Health Services will achieve coordination of effort in trial of new systems, and in extending manpower, activities which RMP is vitally interested in and charged with, but which it can only achieve now piecemeal because it

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exists as only one of the several separate health-related organizations.

It is by this route that we believe organized Medicine and medical educational institutions can likewise best exert their strengths and knowledge in guidance and evaluation.

In order to better carry out its mission in South Carolina staff functions and committees of the Regional Advisory Group will be reorganized and be functionally oriented rather than categorically oriented. Committee membership will also reflect this to greater degree than previously. The SCRMP will be able to respond more quickly to new opportunities for the physicians of South Carolina, and other members of the health professions, to assist in seeking and securing the support needed that will:

A. Promote among providers at the local level new techniques and innovative delivery patterns to improve accessibility, efficiency and effectiveness of health care.

B. Support activities that would help to improve utilization of existing manpower and new kinds of manpower, especially in underserved areas.

C. Encourage regionalization of health facilities.

D. Assist in developing specific mechanisms for quality control and approved standards of care.

E. Likewise, the promotion and development of systems for (1) monitoring the quality of health care; (2) improvement in emergency medical services.

F. By such supports to health services delivery systems, better utilization and improved distribution of health manpower for services and patient care should result.

G. Lastly, but of primary importance, is the function of yearly evaluation and re-evaluation of the SCRMP program and its component projects. Are the programs really, by demonstration and training techniques, actually assisting existing manpower expansion, and is health care more accessible, effective, and efficiently delivered? If not, should the objectives of the program be changed or projects discontinued? There are decisions vital to the SCRMP and other Regional Medical Programs. Simply expanding programs and expending funds will not be helpful to health care, nor merely expanding manpower.

It will require leadership, effort, and cooperation by the physicians and community leaders to accomplish the improvements needed and sought.

SCRMP can and should provide the framework for the actions needed.

The proposed membership of the newly expanded committee will consist of the following representatives, most of whom are now members of the RAG:

The State Board of Health
The S. C. Medical Association Council and Foundation
Health Insurance Providers
The S. C. Department of Vocational Rehabilitation
The S. C. Department of Education
The S. C. Department of Public Welfare
Technical education schools
The Commission on Higher Education
Office of Comprehensive Health Planning, State Board of Health
Members from the public
The S. C. Hospital Association
The Governor's Planning & Grants Office for Community Affairs
The S. C. Department of Mental Health
The S. C. Mental Retardation Commission
The S. C. Nurses' Association
Representatives of allied health science schools
The Medical University of South Carolina



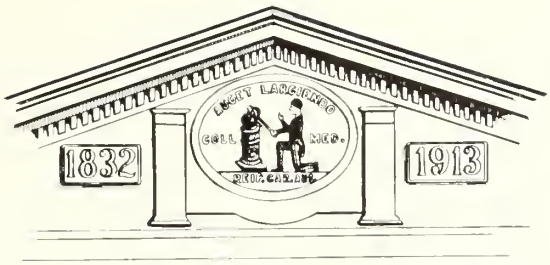

**Dr. E. Kenneth Aycock,** South Carolina State Health Officer, was named president of the American Public Health Association, Southern Branch. **Dr. G. S. Way** of Summerville has been elected chairman of a committee making plans for a three-county regional hospital. The committee is composed of eleven members from Charleston County and five each from Dorchester and Berkeley counties. The Piedmont Health Care Corporation of Marietta has employed **Dr. Terrell O. Carver** as its medical director. Dr. Carver has been administrator of health for the state of Idaho since 1958.

**Dr. John B. Martin, Jr.** of Anderson was elected chairman of the Executive Committee of the State Board of Health. Dr. Martin is a graduate of Emory University and the Medical University of South Carolina and has been a member of the Executive Committee since 1963. Members of the South Carolina Heart Association have installed **Dr. Rembert Burgess** of Spartanburg as president, **Dr. Frederick E. Nigels** of Myrtle Beach as president-elect, and Albert T. Scroggins of Columbia as Chairman of the Board of Directors. **Dr. E. Conyers O'Bryan** of Florence will serve as vice-president. Included on the Board will be **Dr. Loren F. Parmley** of Spartanburg, **Dr. C. Warren Irvin, Jr.,** of Columbia, **Dr. J. A. Moore** of Beaufort and **Dr. James Clark,** also of Columbia.

**Dr. Angus Hinson,** of Rock Hill was installed as president of the Tri-State Medical Association at its Seventy-Third Annual Meeting in Hot Springs. Counselors of the Association will include **Dr. J. A. Johnson** of Andrews and **Dr. Clay W. Evatt, Jr.** of Charleston will serve as program chairman for the 1973 Convention. **Dr. John Anthony White** of Easley has been named vice chairman of the Board of Trustees of Wofford College. **Dr. Jack W. Chandler, Jr.** of Greenville was installed as president of the Association of Citadel Men. **Dr. Jack Rhodes** of Charleston has been elected president of the Porter-Gaud Fathers Association and **Dr. Peter D. Hairston** was elected to the executive board.

Among those elected to fellowship in the American Academy of Pediatrics were **Dr. Robert T. Kindley** of Hartsville and **Drs. Donald A. Ropel** and **Wladimir Wertelecki** of Charleston. **Dr. K. Dan Adcock** and **Dr. F. E. Ellison, Jr. of Greenville** were installed as fellows of the American College of Obstetricians and Gynecologists.

**Dr. Theodore Cuyler Harper,** formerly of South Carolina, was honored this spring in Globe, Arizona, where he had recently retired. Dr. Harper was graduated from the Medical College of South Carolina in 1919. An honor graduate, Dr. Harper was also the recipient of the Manning Simons Scholarship. **Dr. Allan Daniel Lieberman** has announced the opening of his office for the practice of pediatrics and adolescent medicine and is specializing in the underachieving child. His office is located at 1409 Ashley River Road, Charleston.




## Medical University of South Carolina

Degrees were conferred June 1 on the largest graduating class in the history of the Medical University of S. C. Diplomas were given to 174 students from the Colleges of Medicine, Dental Medicine, Nursing, Allied Health Sciences, Pharmacy and Graduate Studies. Dr. Matthew F. McNulty, Jr., national authority on health care administration, was commencement speaker for the 143rd graduation exercise at the Medical University.

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Two faculty members at the Medical University of South Carolina have been selected "Outstanding Educators of America for 1972."

They are Dr. Melvin Henry Knisely, distinguished anatomist, and Dr. Vince Moseley, coordinator for the South Carolina Regional Medical Program and director of the Division of Continuing Education at the Medical University.

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Alumni Service Awards were presented on May 16 by the Medical University of South Carolina honoring two physicians whose names are associated with the great thrust in medical education under way in South Carolina.

The special recognition was accorded to Dr. John M. Pratt, '39, of York, a member of the Medical University Board of Trustees since 1947, and posthumously to Dr. Joseph P. Cain, Jr., '35 of Mullins, who had served as a trustee from 1959 until his death last year.

———

Dr. John D. Ashmore, Jr., a Greenville general and thoracic surgeon, has been elected president of the College of Medicine Alumni Association, Medical University of South Carolina, for the coming year.

He succeeds Dr. Thomas W. Messervy of Summerville, Class of 1939, who in turn was elected secretary-treasurer.

———

Dr. Joseph C. Ross, professor and chairman of the Department of Medicine at the Medical University of South Carolina, has been appointed by President Nixon to the newly formed National Advisory Panel on Heart Disease.

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A new program to train health workers to measure hearing ability is underway at the Medical University of South Carolina. Graduates of the course are qualified as Audiometric Assistants.

The first class of three students was graduated recently in a six-month program, and a second class of five was enrolled for the class starting July 1.

The course is open to any qualified high school graduate with the ability to work with patients, and is a five-month program, with students in class from 9:00 A.M. to 5:00 P.M., five days a week.

———

Dr. Charles Harris Banov, clinical assistant professor of medicine at the Medical University of South Carolina, has been selected a Fellow of the American College of Physicians. Dr. Banov is the first physician in South Carolina to have been certified by the American Board of Allergy and Immunology of the American Board of Internal Medicine. He is first vice president of the Southeastern Allergy Association and is a Fellow of the American Academy of Allergy, the American

College of Allergy and the American College of Chest Physicians. Dr. Banov, a native of Charleston, received his M.D. degree from the Medical University of South Carolina in 1955. He did his postgraduate residency work at Massachusetts General Hospital (Harvard Medical School).

Two Medical University faculty members have been granted Fellowship in the American College of Cardiology. They are Dr. Peter Hairston, associate professor of thoracic surgery and Dr. Charles P. Summerall, III, associate professor of medicine and associate coordinator for Heart Disease and Stroke, SCRMP.

## THE SOUTH CAROLINA DEPARTMENT OF MENTAL HEALTH

William S. Hall, M.D.
State Commissioner of Mental Health

With mounting evidence that a planned 150-bed alcohol and drug addiction treatment center will hardly meet demands for bed-space, the South Carolina Department of Mental Health has obtained approval from the General Assembly for a 36-bed expansion of the facility — and construction is yet to begin.

Approval of the expansion to 186-beds came during the Senate consideration of the annual state appropriation bill and was a direct result of an amendment to the bill offered by Senator James M. Waddell, Jr. of Beaufort, Chairman of the Legislative-Governor's Committee on Mental Health and Mental Retardation.

Since the 56-bed pilot project for training of personnel and demonstration of programming was opened in November, 1971, the facility has operated at full occupancy and with a standing waiting list of almost 100 persons.

With such full usage it has been difficult and virtually impossible to respond to the emergency situations which have occurred. Reports from over the State firmly indicate that the drug and alcohol addiction problem continues to show an alarming increase.

Our own experience tells us that the availability of a service generates a demand in addition to what statistics indicate. Thus it is expected that these factors, coupled with full use of the involuntary commitment laws which will encourage volunteer commitments, forecast maximum use of the new permanent addictions center from the very first week it begins operation.

While at this writing the Department still awaits final approval of the plans and the go-ahead from the State Budget and Control Board, such action is anticipated and the Department is making necessary plans to begin construction this summer.

A site has been selected adjacent to the campus of the Crafts-Farrow State Hospital on Farrow Road, about seven miles from Columbia.

# MEETINGS

The Bureau of Laboratories will offer a course in Medical Mycology during the week of August 21-25, 1972. Through arrangements with the S. C. Regional Medical Program, travel and per diem will be granted to the participants. Registration is limited to 10 students.

For further information, please contact Mrs. Susan M. Cheatham, Laboratory Improvement Section, Bureau of Laboratories, S. C. State Board of Health, Columbia, S. C. 29201.

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The 10th Annual Cancer Chemotherapy Conference will be held at the University of Wisconsin, Madison, on September 6-8. The program will include a review and forward look at anti-cancer therapy, multiple drug therapy of solid tumors and leukemias, the role of x-ray therapy, immunology and virology in the treatment of cancer.

For information contact Dr. G. Ramirez, 714C University Hospitals, Madison, Wisconsin 53706.

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During the week of 24-28 September, the American Academy of Ophthalmology and Otolaryngology will hold its annual meeting at the Convention Center in Dallas, Texas.

For information write: C. M. Kos, M. D., Executive Secretary-Treasurer, American Academy of Ophthalmology and Otolaryngology, 15 Second St., S.W., Rochester, Minn. 55901.

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THE ANNUAL OTOLARYNGOLOGIC ASSEMBLY OF 1972 will be held October 14 through 20, 1972, in the Eye and Ear Infirmary of the University of Illinois Hospital. The Department of Otolaryngology, Abraham Lincoln School of Medicine, University of Illinois at the Medical Center, offers a condensed basic and clinical program for practicing otolaryngologists under the direction of Emanuel M. Skolnik, M.D. It is designed to bring to specialists current information in medical and surgical otorhinolaryngology.

Interested otolaryngologists should direct their inquiries to the mailing address. OTOLARYNGOLOGY, P. O. Box 6998, Chicago, Illinois 60680.

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A separate, but correlated course, "CONFERENCE ON RADIOLOGY IN OTOLARYNGOLOGY and OTHTHALMOLOGY" will be held this year on Friday and Saturday, November 24 and 25, under the guidance of Galdino E. Valvassori, M.D. For further information about the radiology conference, write to Professor Valvassori, Radiology Department, Abraham Lincoln School of Medicine, P. O. Box 6998, Chicago, Illinois 60680.

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## DEATH

### DR. D. R. PACE

Dr. Daniel Rembert Pace, Jr., 41, died unexpectedly on May 7 in a Mullins hospital. Dr. Pace graduated from the Medical University of South Carolina and interned at Columbia Hospital in Columbia. He was former chief of staff of the Mullins Hospital and a member of the Marion County Medical Association, the South Carolina Medical Association and the American Medical Association.

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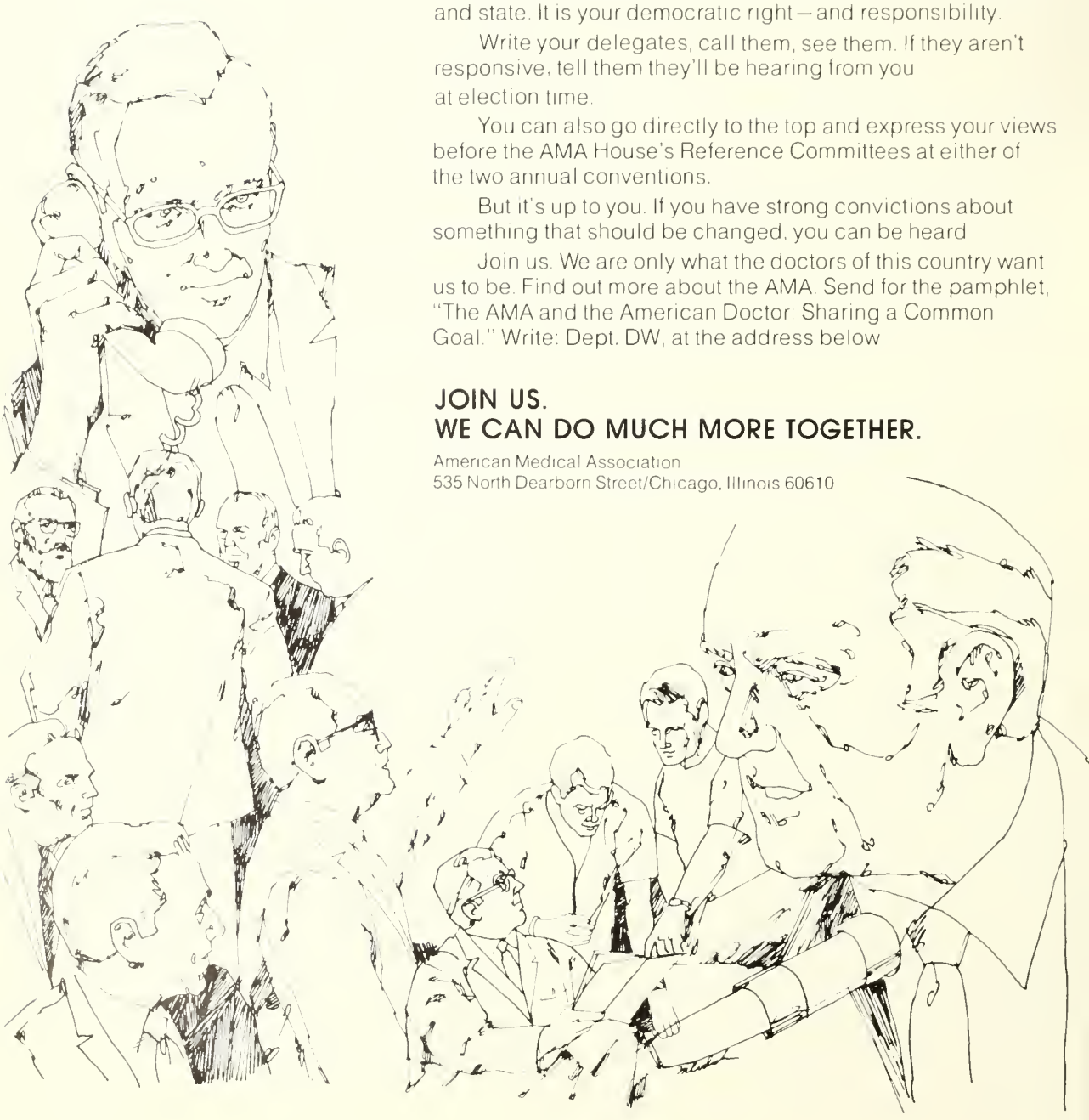
You can also go directly to the top and express your views before the AMA House's Reference Committees at either of the two annual conventions.

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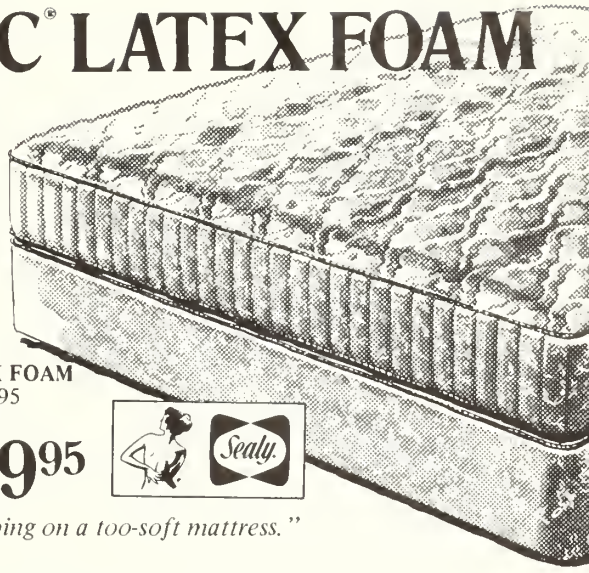


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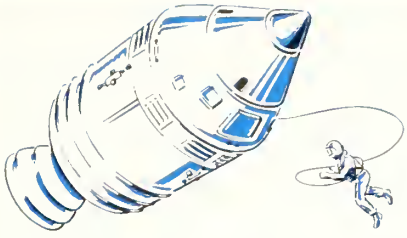
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**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

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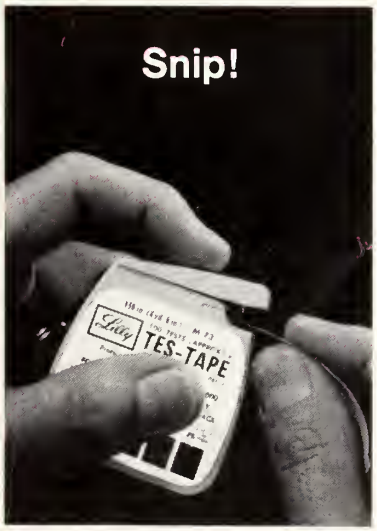
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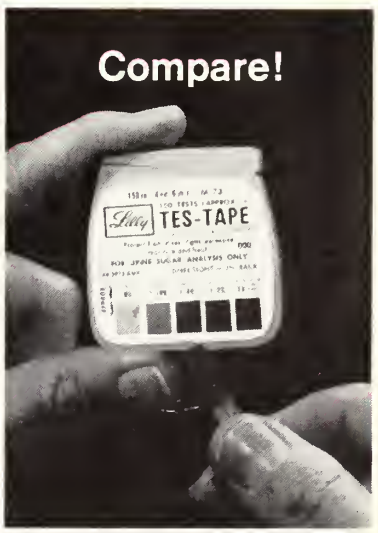
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# Valium®
# (diazepam)

To help you manage excessive psychic tension

# Pinworm therapy is often a family affair





**Contraindications:** History of hypersensitivity to thiabendazole.
**Warnings:** If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.
**Precautions:** Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
**Adverse Reactions:** Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopeni malodor of the urine, crystalluria, hematuria; appearance of liv Ascaris in the mouth and nose. Hypersensitivity reactions

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(THIABENDAZOLE | MSD)



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*r more detailed information, consult your MSD representa-ve or see the Direction Circular. Merck Sharp & Dohme, ivision of Merck & Co., Inc., West Point, Pa. 19486*

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addendum

## INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infestations, whether encountered singly or in combination. Dosages are weight related; therefore, a weight-dose chart is included in the Direction Circular for your convenience when writing a prescription. MINTEZOL should be given after meals if possible.

| INDICATIONS | DOSAGE (1st Day) | ADDITIONAL REGIMEN | COMMENTS |
|---|---|---|---|
| Pinworm disease | Two doses of 1 tablet/50 lb | Repeat 7 days later | This regimen is designed to reduce the risk of reinfection. However, if not practical, repeat the regimen the next day. |
| Threadworm,* large roundworm,* hookworm,* and whipworm* disease | Two doses of 1 tablet/50 lb | Repeat the next day | Alternatively, a single dose of 2 tablets/50 lb may be given. However, a higher incidence of side effects should be expected. |
| Creeping eruption | Two doses of 1 tablet/50 lb | Repeat the next day | If active lesions are still present 2 days after completing this regimen, a second course is recommended. |
| Symptoms of trichinosis* during the invasive phase of the disease | Two doses of 1 tablet/50 lb | Repeat for 2 to 4 successive days | The optimal dosage for the treatment of trichinosis has not been established. |

The recommended maximal daily dosage is 3 g (6 tablets).

*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

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*Important Note:* This drug is not a simple analgesic. Do not administer casually. Carefully evaluate patients before starting treatment and keep them under close supervision. Obtain a detailed history, and complete physical and laboratory examination (complete hemogram, urinalysis, etc.) before prescribing and at frequent intervals thereafter. Carefully select patients, avoiding those responsive to routine measures, contraindicated patients or those who cannot be observed frequently. Warn patients not to exceed recommended dosage. Short-term relief of severe symptoms with the smallest possible dosage is the goal of therapy. Dosage should be taken with meals or a full glass of milk. Patients should discontinue the drug and report immediately any sign of: fever, sore throat, oral lesions (symptoms of blood dyscrasia); dyspepsia, epigastric pain, symptoms of anemia, black or tarry stools or other evidence of intestinal ulceration or hemorrhage, skin reactions, significant weight gain or edema. A one-week trial period is adequate. Discontinue in the absence of a favorable response. Restrict treatment periods to one week in patients over sixty.
*Indications:* Acute gouty arthritis, rheumatoid arthritis, rheumatoid spondylitis.
*Contraindications:* Children 14 years or less; senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia; history or presence of drug allergy; blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease; systemic edema; stomatitis and salivary gland enlargement due to the drug; polymyalgia rheumatica and temporal arteritis; patients receiving other potent chemotherapeutic agents, or long-term anticoagulant therapy.
*Warnings:* Age, weight, dosage, duration of therapy, existence of concomitant diseases, and concurrent potent chemotherapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use lowest effective dosage. Weigh initially unpredictable benefits against potential risk of severe, even fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.
*Precautions:* The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.
*Adverse Reactions:* This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angiitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement.
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*For complete details, including dosage, please see full prescribing information.*

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

**Contributions of Original Articles**

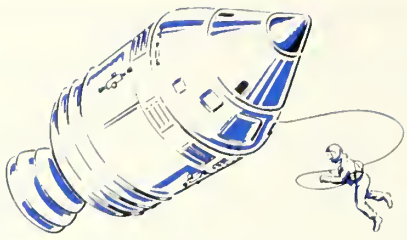
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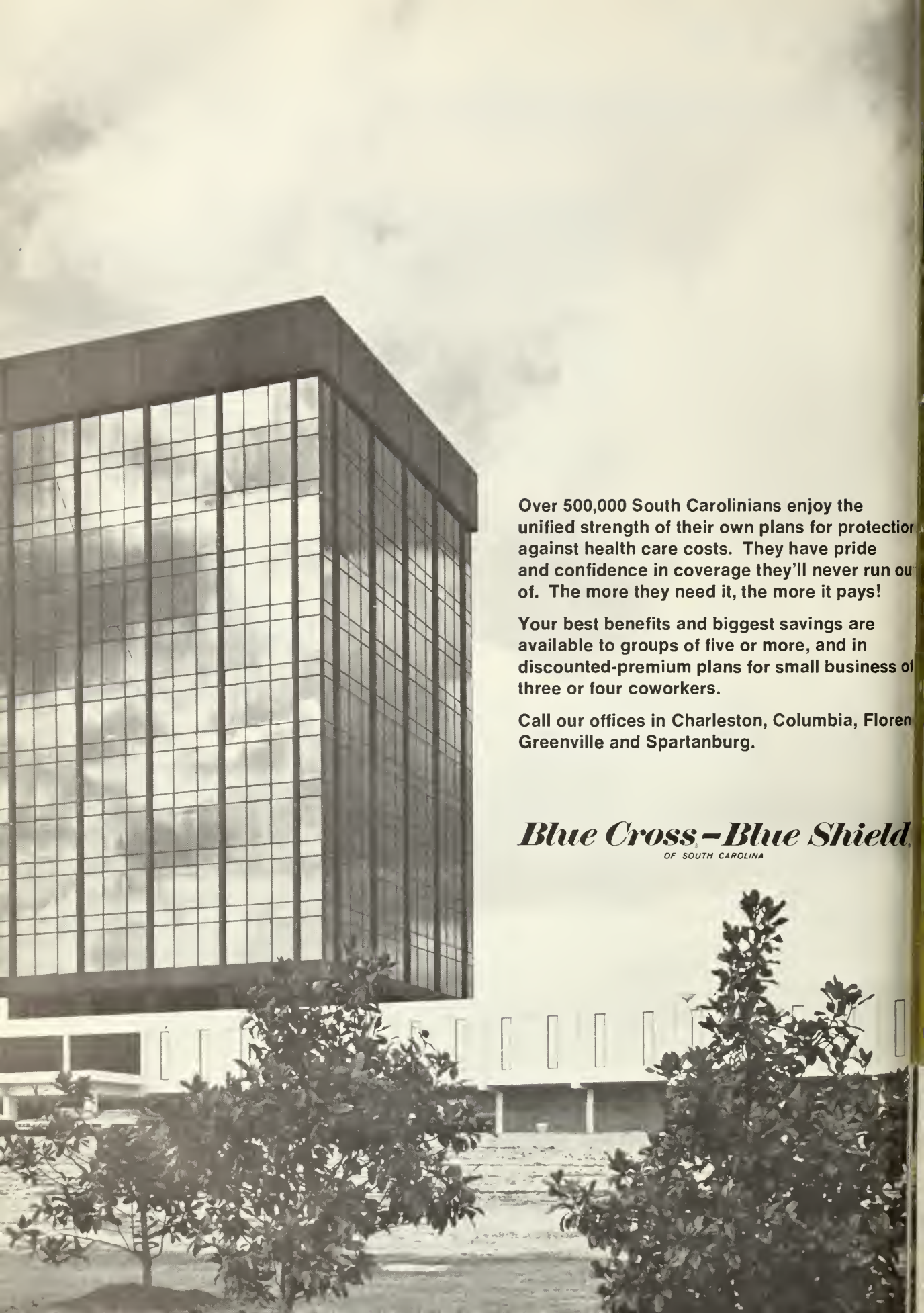
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*"The history of science, and in particular the history of medicine...is... the history of man's reactions to the truth, the history of the gradual revelation of truth, the history of the gradual liberation of our minds from darkness and prejudice."*

*—George Sarton, from "The History of Medicine Versus the History of Art"*

# Would it be useful in clinical practice to have government predetermine drugs of choice?

# Opinion

Results of a survey of physicians:

13.3%
Yes, it would be useful.

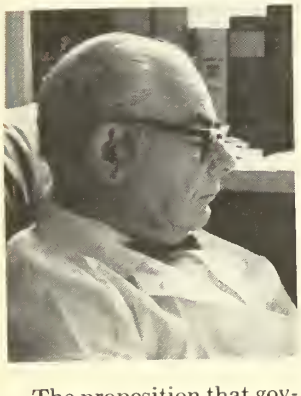
86.7%
No, it would not be useful.

# Dialogue

# Would it be useful in clinical practice to have government predetermine drugs of choice?

## Doctor of Medicine

Walter Modell, M.D.,
Professor of Pharmacology,
Cornell University
Medical College,
Editor,
Clinical Pharmacology
& Therapeutics,
Drugs of Choice,
Rational Drug Therapy



The proposition that government should determine one or two "drugs of choice" within a given therapeutic class reflects the belief that a similarity in molecular structure insures a close similarity in pharmacologic effect. But this is by no means the rule. An obvious example would be in the field of diuretics, where a small change in chemical structure accounts for substantial differences in concomitant effects such as potassium excretion.

Any attempt to dictate the "drug of choice" would be complicated by the fact that some populations demonstrate a bimodal distribution in their reaction to drugs. If the data on drug response are mixed for the total population, one drug will appear to be as useful as the other. But if drug response is reported separately for different segments of the population, drug A will be found to be better for one group and drug B for the other.

It may, of course, be possible to determine drugs of choice in particular categories on a broad statistical basis. But there are always certain patients in whom a drug produces odd, unpredictable or idiosyncratic reactions. So, though a drug might statistically be the most useful one in a given situation, individual variations in response might make it the *incorrect* one.

The point I wish to make is that if two, three, four or more drugs in one class are of approximately equal merit, that in itself is justification for their availability. Exceptional cases do arise in which one drug would be useful to a certain segment of the population and another drug would be of no use at all. In the practice of medicine, the physician must be prepared to treat the routine as well as the unusual case.

Another objection to the determination of a drug of choice is that precise statements of *relative* efficacy are very difficult to make—much more difficult than statements of efficacy. For example, in testing drug efficacy, it is easy to determine the difference between a drug that is effective in treating a condition and one that is not at all effective. Thus, it is fairly easy to determine whether a drug is more effective than a placebo. But if you compare one drug that is effective with another drug that is also effective, and the relative differences between them are very slight, statements of relative efficacy may be very difficult to make with assurance.

I do not mean to imply that relative efficacy statements are not useful or can never be made. With some groups of drugs (e.g., analgesics), extensive study and precise methodology have yielded useful information on relative efficacy. But in most situations, such information can be acquired only through studies encompassing three to five years of use in many more patients than are used to compare drugs with a placebo for the introduction of a drug into commerce. It is really only after practitioners use a drug extensively that relative safety and efficacy in practice can really determined.

The Bureau of Drugs h suggested the package sert as a possible means communicating informati on relative efficacy of dru to the physician. I find th objectionable, since I not believe the physici should have to rely on th source for final scienti truth. There is also a pra tical objection: Since fe physicians actually di pense drugs, they seldo see the package insert. any event, I would mai tain that the physicia should know what drug wants and why without d pending on the governme or the manufacturer to t him.

Undoubtedly, physicia are swamped by excessi numbers of drugs in sor therapeutic categories. A I am well aware that ma drugs within such cat gories could be eliminat without any loss, or pe haps even some profit, the practice of medicir But, in my opinion, neith the FDA nor any oth single group has the expe tise and the wisdom nece sary to determine the o "drug of choice" in a areas of medical practice.

# Maker of Medicine

eneth G. Kohlstaedt, M.D.,
Vice President,
Medical Research,
li Lilly and Company



In my opinion, it is not he function of any governn ne or private regulatory re y to designate a "drug c oice." This determina- or hould be made by the hy cian after he has re- iv l full information on he roperties of a drug, nd hen it will be based on is xperience with this ru and his knowledge of he ndividual patient who s king treatment.

If n evaluation of com- ar ive efficacy were to be ad, particularly by gov- rn ent, at the time a new ru is being approved for ar eting, it would be a re disservice to medi- ne nd thus to the patient th consumer. For exam- le, hen a new therapeu- c ent is introduced, on he asis of limited knowl- ge it may be considered l more potent, more ff tive, or safer than ro ucts already on the ar et. Conceivably, at is time the new drug ul be labeled "the drug f oice." But as addi- on clinical experience is cu ulated, new evidence ay become available. at it may be apparent that the established products should not be so easily dismissed.

Variation in patient response to drugs constitutes one of the major obstacles to the determination of "drugs of choice." We are just beginning to open the door on pharmacogenetics, but it is evident that genetic differences cause wide variations in the way drugs are absorbed, metabolized, etc. This fact alone is sufficient to make unrealistic the idea that there is one drug in each class to be used for every human being.

The problem of determining relative drug efficacy is an extremely complicated one. Comparison with other drugs of the same class should not be a prerequisite for marketing a new substance. In some therapeutic areas, it may be difficult to make accurate comparisons. For example, in the treatment of infections it is not possible to conduct crossover studies. Recovery may be influenced by factors which cannot be controlled or measured, i.e., natural host resistance and virulence of infective agents. A drug's acceptability must often be judged on the basis of its own performance, and this may be limited to experience in a relatively small patient population. If the introduction of a new drug must await the adequate establishment of relative efficacy, the duration of clinical trial and extent of studies would be greatly prolonged, particularly for rare or unusual conditions. The availability of a new drug would be delayed. Many patients might suffer needlessly and lives might be lost.

Relative efficacy can best be established by experience in a general patient population through regular channels of clinical practice. The physician considers the patient as a whole, which means the patient often has multiple problems and drugs must be selected with this in mind. Hence, a "drug of choice" in an uncomplicated case may not be the best drug for a patient with associated problems. Publication of well-controlled studies in medical journals may provide comparative evidence; discussions at medical meetings, presentations at postgraduate courses, and the new audiovisual technology may bring evidence to physicians on comparative therapy. In a free medical marketplace, a drug that does not measure up will fall into disuse. For example, broad clinical experience has established vitamin $B_{12}$ as the "drug of choice" for the treatment of primary pernicious anemia. No amount of advertising or promotional effort by the manufacturer could increase the use of liver extract for this anemia. However, a physician may wish to employ parenteral liver preparations for a special purpose.

In the field of surgery, peer review in the hospital has brought significant improvement in the use of new techniques and procedures. Something of this nature would be useful in the area of drug therapy. However, it should be developed by the medical profession itself and would necessitate, for its proper function, an improvement in the dissemination of reliable data on clinical pharmacology of drugs under consideration.

Ideally, information on the relative efficacy of drugs should be gathered and assessed by the physicians who actually administer the specific agents to a specific patient population. To do this, they will need even more information on the drugs they use — information that the pharmaceutical manufacturers must begin to provide if government regulation of *"drugs of choice"* is to be avoided.

## Opinion & Dialogue

**What is your opinion, doctor?**
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VOLUME 68 AUGUST, 1972 NUMBER 8

# CLINICOPATHOLOGICAL CONFERENCE
# OF
# THE MEDICAL UNIVERSITY OF SOUTH CAROLINA

Development of Neurologic Symptomatology
in a 51 year old Man with Long-standing Psychosis

CLINICIANS: Dr. Gerald Donovan
Dr. Bartolo M. Barone
RADIOLOGIST: Dr. Thomas Dueker
PATHOLOGISTS: Dr. Kenneth Earle
Dr. J. Douglas Balentine

H. Rawling Pratt-Thomas, M.D., Editor
Jane K. Upshur, M.D., Assistant Editor

This 51 year old right handed Caucasian male was admitted to the Medical University Hospital from the South Carolina State Hospital for neurological evaluation of questionable chronic papilledema, intracranial calcification and behavioral changes. He had four brothers, one sister and a half sister. His mother died around the age of 30 years in childbirth when the patient was 8 years old. A maternal aunt of the patient died of a suspected brain tumor at the age of 35. One of the sisters of the patient was admitted to the State Hospital some 20 years ago with a diagnosis of schizophrenia, probably of catatonic type. She had bizarre religious beliefs and hallucinatory experiences. She had a transorbital leucotomy two years later and was discharged 15 years after this procedure.

The patient was raised in an orphanage from the age of 8 years to 18 years. He had the usual childhood diseases. He attended grammar school up to the 7th grade. His initial desire was to become a missionary. In his early 20's, he went to Mexico to serve as a missionary but returned home because he "did not get enough food". He worked in a radio repair shop afterwards. About a year before being admitted to the State Hospital, he became obsessed by bizarre religious ideas and also became "crazy about girls and tried to marry". These activities became unusual and alarming to the family so he was admitted to the State Hospital at the age of 27.

Upon admission to the State Hospital the patient was described as nervous, wanting to go around naked, and also as having trouble sleeping. For the next two years, he was aggressive and belligerent toward other patients and was frequently involved in fights.

The next year he began "behaving silly", showed poor intelligenee and defective memory. He began to scream frequently and was disoriented in time and sometimes in place. He gradually lost interest in his environment.

Three years later he was reported to have exaggerated deep tendon reflexes on routine neurological evaluation. Still another three years later, the patient was started on Mellaril without definite improvement of his psychiatric condition. During the next ten to twelve years the patient became more and more withdrawn. He had frequent inappropriate laughter and very slow motor activity. At this time (21 years after admission), he was admitted to the local hospital with a fever of unknown origin, later attributed to dehydration. The pupils reacted sluggishly to light. Both optic discs looked blurred, suggesting papilledema. Reflexes were hyperactive without rigidity or tremor. A skull x-ray film showed intracranial calcification. He was seen by a neurosurgeon at this time who thought that papilledema was not present and felt that the calcification represented an "old focus of infection". A lumbar puncture was done with opening pressure of 150 mm of water. The cerebrospinal fluid contained one lymphocyte and 2 RBC. The VDRL was negative, the colloidal gold curve was flat and the total protein was 38.2 mg per cent.

He was returned to the State Hospital. He had a tendency to fall, and sustained several abrasions of both knees. His ability to walk remained impaired and his movements became progressively slower. Seven months later bilateral nasal blurring of the optic discs was present and intracranial calcification was again noted. His lumbar puncture at this time showed one lymph, 2 RBC, a negative VDRL and 57 mg per cent protein. A brain scan was normal. An EEG showed excessive slowing in the delta range, perhaps somewhat more predominant on the right. One year later, the patient had inappropriate laughter, markedly slow motor activity and rigidity. The pupils were reactive although the left was larger than the right. The disc margins were found to be hazy and no venous pulsations were noted. He had minimal features of "upper motor neuron disease on the left side". After six months there was slight progression of the extra-pyramidal symptoms. The optic findings again were suggestive of chronic papilledema, more pronounced on the left. An x-ray film was suggestive of increase in the size of the intracranial calcification.

One year later, on admission to the Medieal University Hospital the patient was withdrawn, had an inappropriate grin and a flat affect with disorientation. He had no spontaneous speeeh and was markedly demented. On opthalmologic examination nasal blurring of disc margins without spontaneous venous pulsation was present. He was ataxic on the right and had a wide-based gait. Reflexes were hyperactive with up-going toe on the right and down-going toe on the left. He used his right hand less than his left. Intention tremors were present bilaterally. He was reported to have been on phenothiazine for 15 years. The admission WBC eount was 11,000 with a normal differential. Urinalysis showed 2+ sugar. A serum creatinine was 1.2 mg/100 ml, phosphorus 2.8 mg/100 ml and calcium 9.4 mg/100 ml. ECG was normal. The echo was midline and the brain scan was interpreted as normal. A skull x-ray film revealed intracranial calcification and demineralization of the dorsum sellae. A right carotid arteriogram, a left retrograde brachial arteriogram and a pneumoencephalogram were performed.

*Dr. Donovan:* The protocol for today describes the case of a 51 year old white man, admitted to the Medical University Hospital after 24 years residence in the State Mental Hospital. The picture at the time of his admission to the Mental Hospital appears to be that of a chronic schizophrenic process. Three to four years after that admission there is evidence of dementia, disorientation, and a memory defect. The second decade of his hospitalization was characterized by progressive withdrawal and motor retardation. The first real suspicion of a neurological illness arises in the twenty-first year of his illness when his pupils were noted to be sluggishly reactive, a suggestion of chronic papilledema was present, deep tendon reflexes

were hyperactive, and a skull x-ray film showed intracranial calcification.

Following this, his ability to walk was impaired. Nine months later an EEG showed excessive slowing in the delta range, perhaps more predominant on the right. Then two years after the first suspician of neurological illness, rigidity, a slight progression of extrapyramidal symptoms, and minimal features of upper motor neuron disease on the left side, along with a suggested increase in the size of the intracranial calcification, were noted. One year later on admission to this hospital, a right up-going toe, ataxia on the right with a widebased gait, diminished use of the right hand and bilateral intention tremors were added to the picture. Demineralization of the dorsum sellae was also noted.

Initially the picture was one of a chronic schizophrenic process. A few years after this the stigmata of a chronic organic brain syndrome were in evidence, and then finally after about 20 years hard neurologic signs were noted to have made their appearance. If we may discuss this case in these three stages, there would seem to be two possible conclusions. The first is that the early so-called functional picture was really a manifestation of an always present organic illness, or secondly that a neurological illness complicated a chronic schizophrenic process sometime during the last decade of his hospitalization. Considering the diagnosis of schizophrenia, we must recognize that this term represents a cluster of behavioral symptoms that in no way implies a single or a known etiology. Current thinking incorporates a multi-level additional model involving a resurgent interest in genetics, a possible associated biochemical abnormality and an epigenetic failure in ego development whereby successive developmental tasks are abortively accomplished, so that with increasing life stress and the demands of social adaptation eventually psychological decompensation occurs. We also know that his sister was accorded the diagnosis of schizophrenia. Using the contingency method of statistical prediction (whereby the expectancy of a given medical condition developing among relatives of an affected individual is compared with the expectancy in the general population), Franz Kalman in the 1930's agreed on some average rates of expectancy in schizophrenia. The incidence in the general population is approximately one per cent. The expectancy for a person with one affected half sibling is 7 per cent, and with one affected full sibling 14 per cent. If one parent is affected, the expectancy is 12 per cent. If both parents are schizophrenic there is a 60 per cent possibility that the children will become schizophrenic. In 1950 Kalman published the results of studies based on 953 sets of schizophrenic twins. Concordance rates for 2 identical twins was the same for full siblings, that of 14 per cent. The objective of Kalman's twin studies was to differentiate environmental forces from hereditary factors. In this case, however, these figures serve the useful purpose of demonstrating the increased likelihood that our patient might have been schizophrenic, given a full sibling with the diagnosis of schizophrenia, if indeed, the sister's diagnosis was accurate. Certainly the information about her in the protocol is strongly suggestive.

Next we must consider the clues in the protocol indicating early psychological difficulty or unusually stressful social circumstances that might precipitate the symptoms of schizophrenia. First, the death of the mother, the dissolution of the family, and the patient's institutionalization at the age of 8 certainly are significant psychological stresses. This set of circumstances also suggests poor family cohesion and the possibility of the father's absence. Other questions that should be considered and are really not answered are: (1) Why did the patient stop school in the 7th grade, presumably at ages 13 and 14? Was this a problem of circumstances, intellectual difficulties or disturbed interpersonal relationships? (2) Why was the patient not drafted in the Second World War at a time when almost all able bodied men served? Small clues that his pre-morbid adjustment might have been schizoid, that is to say preschizophrenic, are found in his career choices and failures and the suggested sham attempt at heterosexual relationships. Bizarre religious

beliefs of an obsessional nature are quite characteristic of a sehizoid or schizophrenic individual. In effect, they supplement the impoverished real interpersonal relationships and refleet the patient's omnipotence and narcissism. He was admitted to the State Hospital at age 27. The ages roughly from college entrance (18 or 19) through the late 20's are characteristic for the social decompensation of the chronic schizophrenic. It is the time of separation from home, increased demands of self maintenance and vocational performance, and a lack of structure in interpersonal relationships. It is fairly clear here that after he left the orphanage, he embarked on a series of maladaptive quests, the trip to Mexieo being an example. Bellieose behavior flavored the first two years of the hospitalization. This is a very common characteristie of a schizophrenic process, espeeially in the early stages of hospitalization. Because of the behavior and the severe thought disorder, it is quite likely that he was removed to the more chronic outlying areas of the hospital.

There are several implieations in this. The first is that individuals in this setting seem to experience frequent head trauma. When dealing with them we must always be alert to the possibility of subacute or aeute intracranial hemorrhage and must wonder about the part that chronic head trauma might play in any dementia. The other phenomenon that I think is relevant is what has been referred to as the soeial breakdown syndrome, or the pseudo-dementia assoeiated with it. As the result of highly determined and dehumanizing interpersonal relationships in sueh institutional situations, patients undergo a further change in behavior. We are seeing the reverse effeet of this in the past decade as we empty the State Hospitals of these individuals. Much of what has been taken for primary psychopathology now seems to be the product of the peeuliar dehumanizing society of the state hospitals. Specifieally a pseudo-dementia has been described consisting of poor attention and judgment, disorientation, and apparent diminished intelligenee. These signs are reversed as the patient is removed from this artifieial environment. If we are to eonsider that both a functional and an organic proeess comprised this patient's diffieulty, I tend to interpret the earlier signs of dementia, when the patient was first institutionalized, as related to a severe schizophrenic process. You remember that schizophrenia was originally referred to as dementia praeeox and an apparent loss of intellect.

The interpersonal situation of the patient on the back ward of a state hospital is a giving-in process. There remains the possibility of either acute or chronic head trauma. The increase in deep tendon reflexes on routine neurological evaluation six years after admission should be viewed with caution. Examiners performing these routine examinations frequently overemphasize findings of this sort. Also it is important to consider the matter of the patient's treatment with a phenothiazine. The absence of improvement after being plaeed on a phenothiazine does not increase the likelihood that his symptoms were the result of an underlying neurological problem. In other words the average chronic sehizophrenic usually enjoys a change in his symptoms in that he is more manageable, but there often is little change in his thought process disorder and the overall state of dilapidation. Then we must wonder what part phenothiazines played in the later clinical course. We must assume that as with any other chronic state hospital patient, he was subjected to numerous regimens of different phenothiazines as these made their appearance on the market. Phenothiazines have been used, sometimes almost to a damaging degree, to sedate patients far beyond transquilization. We must wonder how much of the psychomotor retardation and withdrawal might have been due to sedation with phenothiazine. The rigidity first noted some 14 years after initiation of Mellaril therapy and the slight progression of the extra-pyramidal symptoms over the eourse of a year could be related to phenothiazine therapy. We are becoming more aware that a chronic neurological picture may complieate long-term use of phenothiazines. One of the most troublesome syndromes is that referred to as tardive dyskinesia oeeurring in patients treated with the major

tranquilizers. This syndrome is characterized by choreiform, myoclonic, and peculiar rhythmical movements with a high incidence of abnormal movements in the circumoral region. The late occurrence of the syndrome and the persistence of symptoms for months or years in a large number of patients, even after discontinuing phenothiazine, has been noted. There is no clear response to any type of therapy; in fact, the anti-Parkinson agents have oftentimes made these symptoms worse. Older patients and individuals with organic brain disorders seem to be particularly prone to this type of dyskinesia.

Now we must consider the other possibility: whether the original symptoms may have been caused by the same neurological process that resulted in the "hard" signs observed on admission to this hospital. We can only make some very general statements. First of all, it is very difficult to imagine a gradually progressing 24 year history after an initial acute decompensation. We could conceptionalize organic disease involving the frontal lobes, limbic lesions, or bilateral temporal lobe lesions as conceivably producing some of the original behavioral symptoms. This would probably have to be a bilateral process. Without familial evidence of a degenerative process this organic process would most likely be neoplastic. I see this man's illness as an early severe chronic schizophrenic process that might be described as having both hebephrenic and simple characteristics, complicated later in the last decade by a neoplastic process. I would like to ask Dr. Barone to comment further about the significance of the neurological findings.

*Dr. Barone:* This man had a progressing problem. His first psychiatric illness began between age 18 and age 27 when he was admitted to the psychiatric hospital. Then he has further difficulty. Rather than being in the frontal lobes, however, I think the lesion is probably more midline and a little deeper, as in the diencephalon. There is no suggestion of visual difficulty at any time. The first evidence we have of intracranial calcification is at age 48, some 21 years after admission. A question of papilledema arises at this time. This is probably significant, although discounted by the examining neurosurgeon. Also probably significant is the fact that the second lumbar puncture showed a slightly elevated protein. Also noteworthy is the reported increase in size of the intracranial calcification. Eventually there were some lateralizing neurological signs, although it is difficult to be sure, from the protocol, which side of the brain is involved. Thus, we have a patient who comes into the hospital with a 24 year history of a very slowly progressive neurological problem, probably associated with some increased intracranial pressure. The increase in size of the intracranial calcification indicates that this is not a static problem. What conditions cause intracranial calcification?

I would like to mention some of the calcifying lesions neurosurgeons encounter. The number one problem is craniopharyngioma. Most of us know craniopharyngioma as a disease of youngsters with a problem of failure to grow, or sometimes a hyperpituitary state. In the older age group, however, the presenting symptoms are psychiatric. This is well documented in the literature. There are many accounts of patients older than this patient who presented with psychiatric illness but were shown to have craniopharyngiomas. Theoretically, craniopharyngiomas arise from embryonic rests. I can't explain the long periods of quiescence. Another possibility is a slow-growing glioma in the region of the third ventricle, although such a tumor should not calcify. Some of these gliomas will grow in the ventricle as a very small tumor and then develop a very large cyst containing fluid. This might explain the negative brain scan. A more exotic possibility is an ependymoma, which can be occult for a long time. Some years ago, when neurodiagnostic procedures were more limited, a patient received the diagnosis of aqueduct stenosis on the basis of a "brow-up" ventriculogram showing the anterior portion of the third ventricle and both lateral ventricles. A Torkelson procedure was done. Fifteen years later he returned with signs of increased intracranial pressure. A complete ventriculogram demon-



**Fig. 1 Laminogram demonstrating intracranial calcification anteriorly (Larger outlined area) and pineal calcification posteriorly.**

strated an ependymoma in the posterior part of the third ventricle. Was this ependymoma there for 15 years? I don't know. Was this craniopharyngioma there for 24 years? I don't know, but I suspect it was. I think this is a craniopharyngioma which is not involving optic chiasm, but is growing posterior to the chiasm, forming a big mass in the interpeduncular fossa compressing the floor of the third ventricle.

*Dr. Ducker:* Previous x-ray films definitely indicate that this intraeranial calcification did increase in size over a few years time. Looking at all the laminograms, this intracranial calcification was supra-sellar with erosion of the dorsum sellae. This (Fig. 1) demonstrates the area of calcification which contained many flakes of calcium, and some more solidified calcium in it. This area of calcification was entirely separate from that in the region of the pineal body. An angiogram showed evidence of hydrocephalus. The middle cerebral artery on each side was spread out, which was compatible with enlargement of the ventricles. There was no shift of either the anterior cerebral, or the midline or deep venous structures. There was no elevation of any one segment of the anterior cerebral artery, which is somewhat against a supra-sellar mass, as craniopharyngiomas or pituitary tumors specifically will elevate this. A pneumoencephalogram then demonstrated that this calcification apparently was in a good size midline mass which extended more up into the right side than into the left. Only one ventricle would fill. (Fig. 2) Further studies demonstrated that this mass was in the anterior third ventricle, that it did not go into the sella, and that it was elevated and separated from the sella and the floor of the third ventricle. Thus this mass was somewhat away from the area where we would expect a craniopharyngioma to arise.

Before pneumoeneephalograms, we also considered that this was a craniopharyngioma or glioma. We favored an oligodendroglioma because these can be low grade anywhere in the brain, and they can calcify and have a long history. We felt that clinically this tumor was sitting in the area of the fornices and might interfere with the limbic system. We thought clinically that the mass had enlarged enough to give the patient hydrocephalus and trouble with his gait and walking.

At operation we approached from the right side since this mass was extending up on the right side. We went through the frontal lobe, looked into his ventricle and saw this mass lesion growing through the foramen of Monro into the right lateral ventricle (Fig.



**Fig. 2 Pneumoencephalogram showing midline calcified mass, outlined by arrows. Only one ventricle was outlined.**

3). As we removed this tumor we would go through the foramen of Monro down into the third ventriele as we removed the majority of the mass. This was essentially an intraventrieular tumor involving the anterior third ventriele and was not growing up through the floor of the third ventricle as a craniopharyngioma would do. Some of the tumor had to be left behind, attached to the roof of the third ventriele and inextrieably involving the fornices on both sides.

*Dr. Balentine:* This lesion was a neoplastic mass composed of spindle and ovoid eells with rather thiek proeesses arranged quite often in whorls and loose palisades (Fig. 4). Within these whorls these neoplastic eells wrapped themselves around a eentral strueture representing a psammoma body (Fig. 5). In some areas numerous psammoma bodies had beeome ealcified, imparting a gritty sensation to the tumor (Fig. 6). There also were areas showing a syneytial arrangement of cells. All these features are quite eharaeteristie of meningioma, whieh was our pathologie diagnosis. Intraventricular meningiomas are a rarity and they are espeeially rare in the third ventriele. In a review of 50 intraventricular meningiomas by Abbott and Courville in 1942, there were only three in the third ventriele. This partieular case presented a multifaeeted problem clinieally, and certainly



**Fig. 3 View at operation into the right lateral ventricle. Mass of tumor is seen extending into ventricle.**

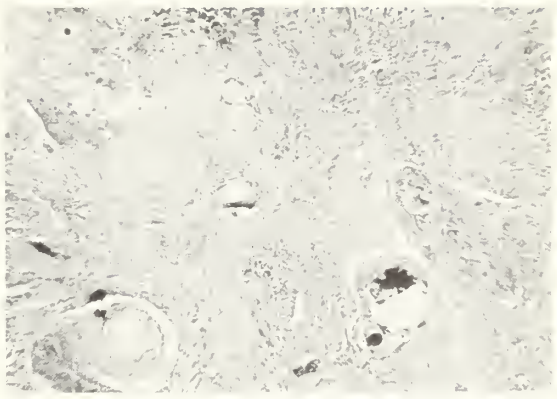


**Fig. 4 Section of tumor demonstrating spindle and ovoid cells arranged in whorls. Few psammoma bodies are evident. H & E x 80.**

pathologieally is very rare. I think most would agree with Dr. Donovan that this was a chronie sehizophrenic who happened to develop a tumor; not that this was a tumor which produeed schizophrenia, although there are rare reports of sueh an oeeurrenee particularly when the region of the limbie system is involved.

*Dr. Earle:* In my opinion this is a sehizophrenic who had a brain tumor. The ways in whieh tumors affeet the brain are at least three fold. Dr. Barone knows that mueh of Dr. Penfield's work over the years could be summarized by the three maps that are in his book. One of these is based on what we know of the brain from ablation. If the brain is studied by destroying parts of it, a rather simple map of the brain is obtained. Mueh of the brain can be ablated with very little residual malfunetion. If a tumor expands and produces problems by ablation, it must do this by destroying some elinieally apparent area. The second way that a tumor ean affeet the brain is by stimulation. We know that a number of tumors will produee seizure patterns, or abnormal eleetrieal diseharges, and there is some suggestion that perhaps involvement of the limbie system in this way may produce psychiatric manifestations. The third way that the brain has been studied although tumors cannot imitate this, is by evoked potential. Dr. Penfield has spent mueh time operating under loeal anesthesia and speaking with the patient during the eourse of eortieal exeisions for scars or other eonditions. He

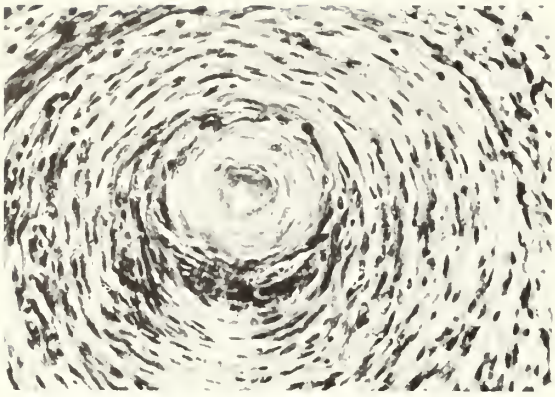


Fig. 5 Whorl of neoplastic cells surround a psammoma body. Masson's Trichrome x 200.

recorded responses from patients as different areas of the brain were stimulated with electric currents.

As a general statement I think it can be said that if a person is schizophrenic and also has a brain tumor or epilepsy or a scar, that when the organic problem is removed there is no assurance that the schizophrenia is removed. In most cases the schizophrenia appears to behave independently of the organic pathology. However, logically speaking, you may convince yourself that brain tumors and other lesions can produce schizophrenia by involving the limbic system. A simple definition of the limbic system would include the cingulate and hippocampal gyrus or that area which is immediately around the ventricular system. This definition has been extrapolated to mean all those basic areas that have to do with personality, involving the temporal lobe, the fornical system, etc. The fact that this tumor was in contact with the fornices naturally raises the question of whether the tumor caused the schizophrenia. This is difficult to answer. When the question arises as to the relationship of the onset of symptoms and the presence of a tumor, we must evaluate the problem by considering the usual behavior of brain tumors. Although many people with brain tumors have a variety of psychiatric problems, the usual behavior of brain tumors is not to produce a schizophrenic reaction.

I would like to comment briefly about the localization of this tumor. Until we were told that this tumor was not involving the floor of the third ventricle, I too would have thought of a craniopharyngioma, because a number of craniopharyngiomas do grow right up through the floor of the third ventricle. It is an error to think that craniopharyngiomas just remain in the suprasellar region, pushing the optic chiasm up. Some will fill the third ventricle and calcify in this way. A colloid cyst should also be mentioned as this is another tumor of the third ventricle. However, a colloid cyst is not apt to have this irregular calcification scattered about. Many of the tumors in this location that affect the hypothalamus do not produce a rage phenomenon such has been produced in animals by certain ablative lesions in the hypothalamus.

Finally, I would like to comment on the problem of the relationship of brain tumors to trauma. I think there is little evidence today that trauma is related to brain tumors. The legacy of several wars is a large number of survivors from brain wounds and there seems to be no more than the usual incidence of brain tumors in these survivors. Earlier though, prominent physicians, such as Harvey Cushing, believed that trauma did somehow cause meningiomas. He was perhaps influenced by a famous patient of his who developed a meningioma beneath the impact of a sharp blow to the head.

*Dr. Balentine:* I understand that this patient has improved as far as his neurological status is concerned, but is still schizophrenic.

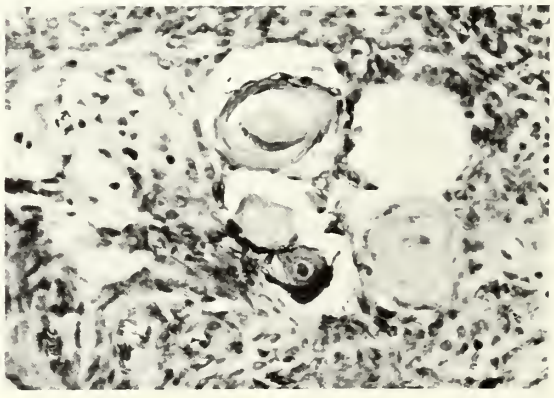


Fig. 6 Numerous psammoma bodies with central calcification are seen. H & E x 200.

# ACUTE HEAD TRAUMA—CONTRAINDICATION FOR LUMBAR PUNCTURE

LT. ROBERT R. M. GIFFORD, MC, USNR°
CAPT. MARTIN R. PLAUT, MC, USN°°

Since the introduction of lumbar puncture by Quincke in 1891, its use has aided in the correct diagnosis of many illnesses of the central nervous system accompanied by changes in the cerebrospinal fluid. Although the list is too lengthy to enumerate here, basically these processes may be categorized as infectious, neoplastic, vascular, metabolic and degenerative in origin.

In general, lumbar puncture is safe and valuable in diagnostic medicine but it is often done without sufficient justification, and even without reasonable knowledge of the information to be obtained. There is no question that the test may be quickly and easily done but in the wrong situation, it may be dangerous or possibly lethal.

Beginning with the early clinical experiences in medical school and through postgraduate training, clinicians are admonished never to perform lumbar puncture in a patient suspected of having increased intracranial pressure. Elevated intracranial pressure may be reasonably assumed in any patient in a stuporous or comatose state with or without papilledema. Patients with acute head trauma are no exceptions to this rule. Disruption of the uniform distribution of increased pressure within the bony cranial box will produce pressure gradients between intracranial compartments and between intracranial and extracranial spaces. In other words, withdrawal of cerebrospinal fluid by lumbar puncture, regardless of how small the needle or the amount withdrawn, will reduce the extracranial subarachnoid pressure. Under these circumstances, the brain under pressure may herniate through the tentorial incisura, from one side to the other beneath the falx, or through the foramen magnum, thereby distorting the brain or brain-stem and producing compromise of vital functions.

Yet, one still hears of the unfortunate complications which occur following spinal tap in an acute head trauma patient with increased intracranial pressure. Other than to verify the presence of increased intracranial pressure, lumbar puncture is of no diagnostic value in acute head trauma. Since elevated intracranial pressure may be assumed on principle in cases of acute head injury, careful neurological examination of the patient is preferable to lumbar puncture in establishing the diagnosis.

Commonly, lumbar puncture is performed in head trauma cases because of erroneous or inadequate history. The unconscious patient is brought to the emergency room with either minimal or no evidence of head injury. Thus the history of the patient, as obtained from others, is crucial. Frequently the history suggests that there was sudden loss of consciousness followed by the patient's falling and striking the head on a nearby object. In such cases the patient is usually found in the bathroom, on the stairs, or on the porch of the home. On occasion, the

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The opinions and assertions contained herein are those of the authors and are not to be construed as official or reflecting the views of the Navy Department or the Naval Service at large.

patient may initially be stuporous, lapsing into coma before adequate information can be obtained.

Cerebrovascular accident seems to be an attractive choice in the differential diagnosis, leading the physician to conclude that lumbar puncture is a logical next step to exclude subarachnoid hemorrhage. Minimal evidence of external head trauma is dismissed as incidental, particularly when fundoscopic examination reveals no papilledema. Nevertheless, opening cerebrospinal fluid pressure may often be markedly elevated, followed by either immediate worsening or deterioration of the patient's condition over a course of several hours. Death may or may not follow uncal herniation through the tentorial opening or cerebellar tonsillar herniation through the foramen magnum.

Retrospective evaluation of the history suggests that the primary cerebral insult was related to acute head injury accompanying a fall down stairs, from the porch or in the bathroom. Since the degree of extracranial injury does not always reflect the degree of intracranial damage, lack of clear external evidence of trauma should not lull the clinician into a false sense of reassurance. As is well known, a significant degree of brain swelling with increased intracranial pressure may result from a blow to the head, rendering the patient comatose without leaving external evidence of injury.

The presence or absence of papilledema on fundoscopic examination is not critical to the diagnosis of acute head trauma. The precise mechanisms permitting greater extremes of pressure to develop within the intracranial cavity without changes in the eye grounds remain incompletely understood.[1] Levels of intracranial pressure following head injury may vary widely with steadily increasing pressure in some cases as opposed to marked fluctuations from normal to marked elevations in other cases. The temporal profile may vary from minutes to hours.[2]

If the differential diagnosis involves the question of head trauma versus cerebrovascular accident, lumbar puncture fails to contribute clinically applicable information for establishing a firm diagnosis. Findings of increased intracranial pressure do not help to localize the lesion to supratentorial or infratentorial compartments or to differentiate among the many diagnostic possibilities. For example, a finding of subarachnoid hemorrhage at lumbar puncture, with or without increased intracranial pressure, leaves the clinician without a definitive diagnosis among the following: aneurysm, arteriovenous malformation, hemorrhage from tumor, primary cerebral hemorrhage, hemorrhagic infarct or traumatic subarachnoid hemorrhage.

What then is the clinician's best course of action? We recommend observation over a period of days up to a week or two. During this time, the patient may regain consciousness and may be able to give an adequate history. Even then, definitive diagnosis may require angiography, trephination or craniotomy.

In summary, lumbar puncture is of little or no value in the diagnosis and management of acute head trauma. Furthermore, such a procedure is potentially lethal in cases of acute head injury with increased intracranial pressure. The physician is therefore obligated to investigate carefully any suspicion of head trauma as the primary intracranial insult before performing the spinal tap. The conversion of a patient with a readily treatable head injury into a case of secondary irreversible brain-stem damage from pressure cone formation is an iatrogenic tragedy that should be avoidable.

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# A SURVEY OF INTESTINAL PARASITES IN CHARLESTON COUNTY SCHOOL CHILDREN

CECIL F. JACOBS, M.D., M.P.H.*
DAWN M. N. TEATOR, B.S., R.N.'**
NANCY E. JACOBS***

Intestinal parasites, badges of poverty and ignorance, denoting a lack of personal hygiene and the improper disposal of human excreta, were common in the rural South 30 to 50 years ago. Today, while such infestations are encountered in individual patients, the prevalence of intestinal parasites in the general population is not well defined.

In an effort to identify the scope of the problem among different populations residing in a large low-country county of South Carolina, the Charleston County Public School system and the Charleston County Health Department mounted a large scale sampling program. Under Dr. A. F. DiSalvo, the Division of Laboratories of the South Carolina State Board of Health, examined stool specimens collected from first and second grade students in 34 Charleston County public schools.

All rural schools and many suburban and urban schools participated in the survey. Coming from all sections of the county, the samples permitted a comparison of the prevalence of infestation by color, sex, presence of public sewer systems, as well as geographic section of the county.

With the sex and color of each student recorded, 5103 stool specimens were examined and reported. A summary of the findings, tabulated on the basis of all participating schools in each of the county's eight constituent school districts, is reported in Table 1.

While the percentage of children having intestinal parasites varies from district to district, it is obvious the problem exists throughout the county. 31.3% of all specimens were positive for at least one intestinal parasite while 13.4% of all children had multiple (2 to 5) parasitic infestation.

While prevalence of infestation is higher in the rural districts, the distribution does not decline uniformly as one proceeds from a purely rural setting to the urban community. For example, the school from District 20 is located in the Peninsular City of Charleston and yet has higher rates of infestation than suburban schools.

That Ascaris Lumbricoides (roundworm) and Trichuris Trichiura (whipworm) would be found was never questioned. However, their presence in such a high percentage of children was not anticipated. Neither was it anticipated that as many specimens would reveal the presence of Entamoeba histolytica as was found.

Necator Americanus (hookworm) was identified only rarely. A total of eight specimens were positive for this parasite which was quite common 35 years ago. Because of its rarity, it is only mentioned in passing; however, it is included in the number of total positive specimens, as are other parasites

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TABLE 1.

SUMMARY OF INTESTINAL PARASITE SURVEY BY SCHOOL DISTRICT CHARLESTON COUNTY, S. C. 1972

| School District | Specimens Examined | Per cent Positive | Ascaris Lumbricoides | Per cent Positive | Entamoeba Histolytica | Trichuris Trichiura | Per cent Positive | Number with Multiple (2-5) Parasites | Per cent Positive |
|---|---|---|---|---|---|---|---|---|---|
| No. 1 | 172 | 55.2% | 63 | 36.6% | 1 | 40 | 23.3% | 35 | 20.3% |
| No. 2 | 583 | 31.0% | 85 | 14.6% | 6 | 103 | 17.7% | 112 | 19.2% |
| No. 3 | 871 | 31.2% | 140 | 16.1% | 10 | 204 | 23.4% | 146 | 16.8% |
| No. 4 | 1237 | 18.2% | 91 | 7.4% | 5 | 15 | 1.2% | 47 | 3.8% |
| No. 9 | 472 | 56.6% | 152 | 32.2% | 3 | 151 | 32.0% | 120 | 25.4% |
| No. 10 | 1060 | 12.3% | 42 | 4.0% | 5 | 15 | 1.4% | 25 | 2.4% |
| No. 20 | 133 | 31.6% | 16 | 12.0% | 1 | 5 | 3.8% | 9 | 6.8% |
| No. 23 | 575 | 67.0% | 254 | 44.2% | 25 | 177 | 30.8% | 191 | 33.2% |
| TOTAL ALL DISTRICTS | 5103 | 31.3% | 843 | 16.5% | 56 | 710 | 13.9% | 685 | 13.4% |

identified in the survey such as Giardia Lamblia, Entamoeba coli, and Endolimax nana.

A wide variety of intestinal parasites was encountered in the survey. None of the areas was exempt from intestinal parasites; however, exept for brief notice an Tables 1 and 4, this paper will deal only with A. Lumbricoides and T. Trichiura. Entamoeba histolytica, found in 1.1% of the students, is being studied by Dr. Charles Darby of the Department of Pediatrics of the Medical University of South Carolina and will be reported in a separate paper.

Table 2 and Table 3 depict the prevalence of infestation by A. Lumbricoides and T. Trichiura among first and second grade students in 10 predominantly rural and two suburban-rural schools in the county. Reporting is by total students examined and by color of students.

Care must be exercised in the interpretation of percentage figures used, especially in white students, because of the small numbers involved. For example, in School No. 10, 100% of the white students are reported positive for both parasites. It must also be noted that only one white student was examined in this school and he was positive for both A. Lumbricoides and T. Trichiura.

The difficulty in comparing rural white students to rural negro students is apparent because of the small number of white children attending rural public schools. Those schools with any appreciable number of white students represent areas in which suburban and rural students attend the same school.

In an effort to determine the prevalence of infestation among students living in areas in which adequate sewage disposal is available, three schools were selected for study. Table 4 depicts the results obtained in these schools.

School A is predominantly Negro and located in the city of Charleston. Schools B and C are predominantly white located in the urban area adjacent to the Charleston Peninsula. Obviously, the availability of sewage disposal facilities does not insure the elimination of intestinal parasites. The study does not determine whether the presence of higher

TABLE 2.

PREVALENCE OF A. LUMBRICOIDES INFESTATION IN FIRST AND SECOND GRADE STUDENTS OF RURAL SCHOOLS, BY COLOR CHARLESTON COUNTY, S. C. 1972

| School | Total Examined | Per cent Positive | Negro Students Examined | Per cent Positive | White Students Examined | Per cent Positive |
|---|---|---|---|---|---|---|
| 1 | 54 | 33.3 | 54 | 33.3 | 0 | 0.0 |
| 2 | 51 | 33.3 | 42 | 38.1 | 9 | 11.1 |
| 3 | 67 | 41.8 | 67 | 41.8 | 0 | 0.0 |
| 4 | 173 | 41.6 | 165 | 43.6 | 8 | 0.0 |
| 5 | 165 | 9.7 | 49 | 24.5 | 116 | 3.4 |
| 6 | 214 | 16.8 | 96 | 30.2 | 118 | 5.9 |
| 7 | 114 | 54.4 | 113 | 54.9 | 1 | 0.0 |
| 8 | 139 | 40.3 | 135 | 41.5 | 4 | 0.0 |
| 9 | 149 | 53.0 | 147 | 53.7 | 2 | 0.0 |
| 10 | 76 | 47.4 | 75 | 46.7 | 1 | 100.0 |
| 11 | 160 | 32.5 | 130 | 38.5 | 30 | 6.7 |
| 12 | 188 | 45.2 | 182 | 46.7 | 6 | 0.0 |

TABLE 3.

PREVALENCE OF T. TRICHIURA INFESTATION IN FIRST AND SECOND GRADE STUDENTS OF RURAL SCHOOLS BY COLOR CHARLESTON COUNTY, S. C. 1972

| School | Total Examined | Per cent Positive | Negro Students Examined | Per cent Positive | White Students Examined | Per cent Positive |
|---|---|---|---|---|---|---|
| 1 | 54 | 44.4 | 54 | 44.4 | 0 | 0.0 |
| 2 | 51 | 11.8 | 42 | 14.3 | 9 | 0.0 |
| 3 | 67 | 14.9 | 67 | 14.9 | 0 | 0.0 |
| 4 | 173 | 49.7 | 165 | 52.1 | 8 | 0.0 |
| 5 | 165 | 10.3 | 49 | 34.7 | 116 | 0.0 |
| 6 | 214 | 12.6 | 96 | 26.0 | 118 | 1.7 |
| 7 | 114 | 62.3 | 113 | 62.8 | 1 | 0.0 |
| 8 | 139 | 38.8 | 135 | 39.3 | 4 | 25.0 |
| 9 | 149 | 40.3 | 147 | 40.8 | 2 | 0.0 |
| 10 | 76 | 68.4 | 75 | 68.0 | 1 | 100.0 |
| 11 | 160 | 13.8 | 130 | 16.9 | 30 | 0.0 |
| 12 | 188 | 29.3 | 182 | 30.2 | 6 | 0.0 |

TABLE 4.

COMPARISON OF INFESTATION BY SELECTED PARASITES AMONG CHILDREN RESIDING IN AREAS WITH ADEQUATE SEWAGE DISPOSAL CHARLESTON COUNTY, S. C. 1972

| School | Specimens Examined | Per cent Positive | Ascaris Lumbricoides | Trichuris Trichiura | Giardia Lamblia | Entamoeba Histolytica |
|---|---|---|---|---|---|---|
| A | 133 | 31.6% | 16 | 5 | 10 | 1 |
| B | 140 | 7.1% | 0 | 2 | 4 | 0 |
| C | 79 | 5.1% | 1 | 0 | 1 | 0 |

TABLE 5.

RELATION OF ASCARIS LUMBRICOIDES INFESTATION TO HEIGHT AND WEIGHT OF SIX AND SEVEN YEAR OLD NEGRO STUDENTS CHARLESTON COUNTY, S. C. 1972

| | TOTAL ALL STUDENTS | | MALE | | FEMALE | |
|---|---|---|---|---|---|---|
| | Positive | Negative | Positive | Negative | Positive | Negative |
| Number of Students | 190 | 220 | 114 | 113 | 76 | 107 |
| Average Height (inches) | 47.27 | 48.32 | 47.27 | 48.51 | 47.27 | 48.12 |
| Average Weight (lbs.) | 49.90 | 51.33 | 49.97 | 52.11 | 49.80 | 50.51 |

levels of infestation among Negro students in an urban area when compared to white students is the result of visits to relatives in rural areas, recent migration to the urban area, lower levels of personal hygiene, or combinations of these factors.

In an effort to determine whether or not infestation with Ascaris Lumbricoides results in any deterimental effect on the development of children, weight and height of each child were recorded. Comparisons of these measurements in children six and seven years of age were made in 12 schools. The small number of white children with positive specimens does not allow comparisons which can be considered statistically valid and are therefore excluded.

The results of comparisons in 410 Negro children are given in Table 5. As can be seen, children with roundworm infestation averaged 1.05 inches shorter stature than their counterparts without parasitic infestation. The average weight was 1.43 pounds less in children with Ascaris infestation. The same pattern of smaller stature and lower weight is observed in both Negro male and female children.

While the data are not intended to represent any conclusive findings, they suggest that infestation with A. Lumbricoides may be a factor in inhibiting physical development in young children.

Because the prevalence of parasitic infestation was found to be high in rural school children, it was deemed desirable to compare current levels with those found in past surveys.

Comparison of the prevalence of specific parasitic infestation in rural school children 34 years ago was made possible by Gwendolyn Nolte Taylor, Assistant Professor of Medical Technology, Medical University of South Carolina. Her masters' thesis entitled, "A Helminth Survey of the Rural School Children of Charleston County, South Carolina, 1938-1939" provided data for such comparisons.

While it will be noted that there is a slightly lower level of infestation with A. Lumbricoides today, it must be recognized that the decline does not represent any significant change in levels of infestation among the rural Negro population.

The shift in percentage infestation between male and female children is of interest. This could be the result of an increasing awareness of personal hygiene practices among females as a result of lectures and films on menstruation and personal cleanliness given to older girls in schools today. These, in turn, pass such information down to younger sisters.

If this is the case, it would indicate the desirability of including such material in the very early days of public school education.

If physical development is impaired by A. Lumbricoides as is suggested by the findings in Table 5, mental development may also suffer as a result of such infestations. The fact

TABLE 6.

PREVALENCE OF ASCARIS LUMBRICOIDES INFESTATION IN YOUNG RURAL SCHOOL CHILDREN BY COLOR AND SEX CHARLESTON COUNTY, S. C. 1938 AND 1972

| | 1938 (Ages 5-9 yrs.) | | | | 1972 (1st & 2nd Grade) | | | |
|---|---|---|---|---|---|---|---|---|
| | Negro | | White | | Negro | | White | |
| | Male | Female | Male | Female | Male | Female | Male | Female |
| Number Examined | 134 | 151 | 122 | 108 | 668 | 587 | 166 | 133 |
| Per cent Positive | 49.3% | 58.9% | 7.4% | 14.8% | 44.6% | 41.6% | 5.4% | 4.5% |

that almost one-half of the rural Negro children are now, and have been for generations, plagued with this parasite is sufficient reason for the development of an intensive, coordinated program of education and treatment to eradicate this health problem.

## SUMMARY

A study of the prevalence of infestation with intestinal parasites in first and second grade students of Charleston County school children is presented. The percentage of rural Negro children with intestinal parasites is found to be almost as high as was the case 34 years ago.

Hookworm infestation was rarely found but the presence of Entamoeba histalytica was detected more often than had been anticipated.

Physical development appears to be inhibited in children with A. Lumbricoides as compared with children without intestinal parasites.

**Asbestos Air Pollution**

I. J. Selikoff et l *Arch Environ Health* 25:1-13 (July) 1972

Findings of mesotheliomas among individuals living in the vicinity of asbestos plants suggested that asbestos air pollution might occur. Measurement of asbestos (chrysotile) content of ambient air in New York City and other locations showed levels of 10 to 50 x $10^{-9}$ gm/cu m, and lungs of New York residents examined at autopsy regularly showed chrysotile fibrils. Occurrence of asbestos air pollution is now established. Since most urban air pollution is derived from commercial and industrial sources, the asbestos industry has both important responsibility and opportunity for its control.

**Technique to Improve Rate of Healing of Incised Abscesses**

I. C. Ritchie *Br Med J* 2:381-382 (May 13) 1972

Incised skin abscesses were treated either by introducing sterile gel of sodium fusidate into the cavity on one occasion only, or by applying daily superficial dressings impregnated with sodium fusidate ointment. In comparison with the dressing group, the intracavity use of gel reduced the mean healing time of incised abscesses by approximately one half When abscesses were analyzed according to site and size, the reduction in mean healing time was equally striking. No hypersensitivity or irritation to either method was observed.

# HOW DO WE CHOOSE OUR FUTURE PHYSICIANS?:

## A Survey of American Medical Schools

SYLVESTER R. MLOTT, Ph.D.*
and
MARGARET P. SCHACHTE, B.A.*

What makes a good physician? What qualities do medical schools value in selecting students for admission? Although several articles have studied medical school applicants[1-4] and personality correlates of medical school achievement,[5] none has attempted to define the important criteria used in medical school admission procedures or to clarify the desirable attributes of a physician. Our present failure to keep abreast of mushrooming needs for medical care demands that we draw our guidelines more carefully, both in selecting applicants for admission into medical school and in shaping the formal curricula and training experiences, with an eye toward utilizing existing educational facilities more efficiently and enlarging our force of dedicated physicians.

Thus, in the fall of 1971, a survey letter was sent to 103 medical schools in the United States and Canada, requesting that an appropriate representative of each school list briefly the important criteria currently used in admission procedure and personality attributes deemed most desirable in a physician.

Seventy-three schools responded to the letter. Of these, 55 (75.3%) responded to the question regarding standards used in medical student selection. Of the remaining 18 schools, 4 (5.5%) indicated that their programs had been very recently initiated, and 14 (19.2%) ignored the question. The number of criteria listed by the responding medical schools ranged from 2 to 12, with a mean of 5 requirements.

Data tabulation revealed that 38 of the 55 schools answering this question (69.1%) relied most heavily on grade point average, while 2 (3.6%) thought it of minor importance. Similarly, 38 schools (69.1%) gave most weight to Medical College Admission Test scores, while 5 (9.1%) considered them least important. Interview data were emphasized by 28 schools (50.9%), and 2 schools (3.6%) thought them negligible. Recommendations from applicants' former teachers were relied upon by 22 schools (40.0%), and recommendations from pre-medical advisors were considered very important by 20 schools (36.4%). Fifteen schools (27.3%) deemed the applicant's motivation toward the study of medicine most important. A total of 98 criteria were listed by the medical schools answering this question.

Of the 73 medical schools involved in the survey, 40 (54.8%) responded to the question regarding the desirable characteristics of a physician. Of the schools not responding to this question, 4 (5.5%) indicated that they were very recent medical programs, and 6 (8.2%) made statements to the effect that the desirable attributes of a physician are "highly variable and nobody has an answer," while the remaining 23 schools (31.5%) made no direct reference to the question. The number of desirable attributes suggested by the responding schools ranged from 1 to 18, with a mean of 3 attributes.

Data tabulation revealed that unquestionable integrity is the characteristic deemed most important in a physician by 12 of the responding medical schools (30.0%). Follow-this, 11 schools (27.5%) emphasized motiva-

*Department of Psychiatry, Medical University of South Carolina, Charleston, South Carolina

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- promptly relieves hyperacidity
- also relieves fullness and bloating
- non-constipating



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aluminum and magnesium hydroxides with simethicone

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# If you've seen one, have you really seen them all?

The following patient profiles represent typical clinical situations, but do not necessarily represent actual cases.

Age 22, previously normal menses with occasional menorrhagia. Now on a sequential O.C. for four months. Complains of heavy flow, occasional intracyclic bleeding, edema, tender swollen breasts.
Indicates estrogen excess.
1st choice: Switch to a combination 50-mcg.-estrogen O.C. (such as **Demulen**®).

Age 19, small breasts, minor hirsutism, oily hair and skin. History of metrorrhagia, skipped or scanty menses. New user.
Indicates androgenic excess or estrogen deficiency (fertility is suspect).
1st choice: An estrogen-dominant O.C. (such as **Enovid-E**®).

Age 25, average frame, poor complexion. No problem with menses, normal para 1. On a low-estrogen/high-progestogen O.C. for two years. Now complains of scanty flow, decreased libido, depression.
Indicates probable buildup of progestogen-related side effects.
1st choice: Switch to a center-spectrum O.C. with more estrogen, less progestational activity (such as **Ovulen**®).

Age 21, short, mammose, with normal menses, some acne. Was put on prenuptial regimen of 50-mcg.-estrogen/moderate-progestogen O.C. for two months. Now has increased acne.
Indicates metabolic production of androgen or relative estrogen deficiency.
1st choice: Switch to a 100-mcg.-estrogen combination (such as **Enovid-E**® or a sequential).



Unmasked, physiologically and anatomically, they're not all the same. A basic difference lies in their hormone profiles. One may secrete too much estrogen, another not enough...or perhaps too much androgen; the vast majority would fit somewhere into the broad center spectrum.

Although the profiles described below may not be completely predictive, in optimal O.C. selection, the estrogen-progestogen activity ratio should be carefully matched to the patient profile. Searle offers you O.C.s in a range not only suitable for your patients in the balanced center spectrum, but also adaptable to the patient with another type of hormone profile.

Oral contraceptives are complex medications. Among the commonly reported adverse reactions are: intracycle bleeding, fluid retention, tender or swollen breasts, exacerbation of acne condition, changes in libido, amenorrhea while on medication and upon discontinuance, nausea, leg cramps, headaches, weight gain. Therefore, after reference to the prescribing information, oral contraceptives should be prescribed with care.

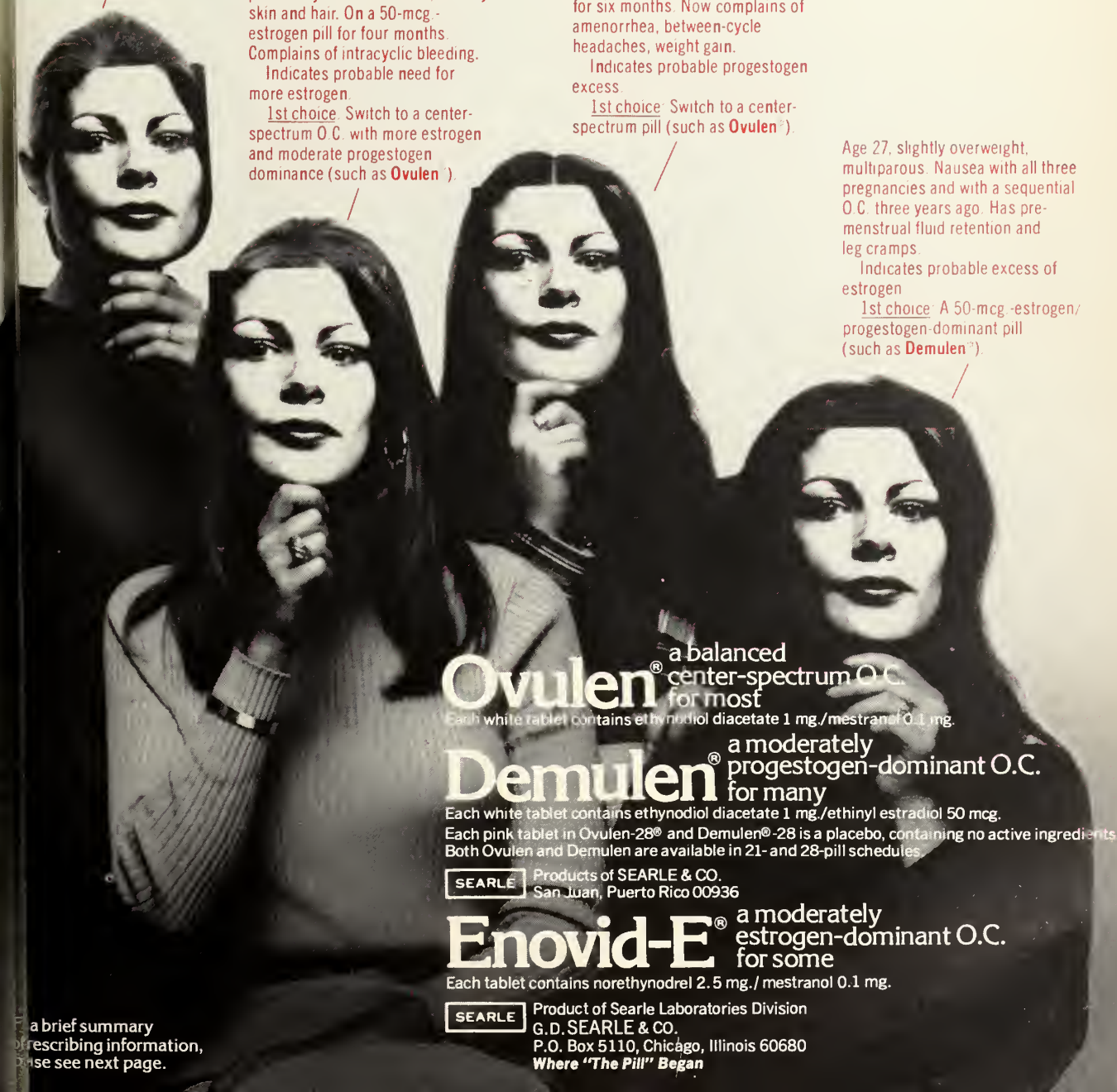
*Note: In some patients any level of exogenous estrogen or progestogen may produce symptoms of excess hormone activity.

e 25, tall, slender, athletic, th flat chest. On a progestogen- minant 50-mcg.-estrogen O.C. s recurrent trichomoniasis d Monilia.
Indicates estrogen deficiency and cess of progestogen in current O.C.
1st choice: Switch to a com- nation pill with 100 mcg. trogen and less progestational tivity (such as **Enovid-E*** or **ulen*** or a sequential).

Age 23, "Miss America" figure, previously normal menses, healthy skin and hair. On a 50-mcg.-estrogen pill for four months. Complains of intracyclic bleeding.
Indicates probable need for more estrogen.
1st choice: Switch to a center-spectrum O.C. with more estrogen and moderate progestogen dominance (such as **Ovulen®**).

Age 21, college senior, average build. On highly progestogen-dominant/low-dose-estrogen O.C. for six months. Now complains of amenorrhea, between-cycle headaches, weight gain.
Indicates probable progestogen excess.
1st choice: Switch to a center-spectrum pill (such as **Ovulen®**).

Age 27, slightly overweight, multiparous. Nausea with all three pregnancies and with a sequential O.C. three years ago. Has pre-menstrual fluid retention and leg cramps.
Indicates probable excess of estrogen.
1st choice: A 50-mcg.-estrogen/progestogen-dominant pill (such as **Demulen®**).



**Ovulen®** a balanced center-spectrum O.C. for most

Each white tablet contains ethynodiol diacetate 1 mg./mestranol 0.1 mg.

**Demulen®** a moderately progestogen-dominant O.C. for many

Each white tablet contains ethynodiol diacetate 1 mg./ethinyl estradiol 50 mcg.
Each pink tablet in Ovulen-28® and Demulen®-28 is a placebo, containing no active ingredients.
Both Ovulen and Demulen are available in 21- and 28-pill schedules.

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**Enovid-E®** a moderately estrogen-dominant O.C. for some

Each tablet contains norethynodrel 2.5 mg./mestranol 0.1 mg.

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*Where "The Pill" Began*

a brief summary
rescribing information,
se see next page.

# a family of O.C. products to help you match the right pill to the right patient

## Ovulen®

Each white tablet contains:
ethynodiol diacetate 1 mg./mestranol 0.1 mg.

## Demulen®

Each white tablet contains:
ethynodiol diacetate 1 mg./ethinyl estradiol 50 mcg.

Each pink tablet in Ovulen-28® and Demulen®-28 is a placebo, containing no active ingredients.

**Actions** – Ovulen and Demulen act to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Ovulen and Demulen depress the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

**Special note** – Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

**Indication** – Ovulen and Demulen are indicated for oral contraception.

**Contraindications** – Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

**Warnings** – The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality conducted in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis, pulmonary embolism, and cerebral thrombosis and embolism and the use of oral contraceptives. There have been three principal studies in Britain[1-3] leading to this conclusion, and one[4] in this country. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll[3] was about sevenfold, while Sartwell and associates[4] in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as nonusers. The American study also indicated that the risk did not persist after discontinuation of administration and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Ovulen and Demulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

**Precautions** – The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen or Demulen. Therefore, if such tests are abnormal in a patient taking Ovulen or Demulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations preexisting uterine fibromyomas may increase in size. Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Ovulen or Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen or Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen or Demulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen or Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

**Adverse reactions observed in patients receiving oral contraceptives** – A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in $T^3$ uptake values; metyrapone test and pregnanediol determination.

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## Enovid-E®

norethynodrel 2.5 mg./mestranol 0.1 mg.

**Actions** – Enovid-E acts to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Enovid-E depresses the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

**Indication** – Enovid-E is indicated for oral contraception.

The *Special Note, Contraindications, Warnings, Precautions* and *Adverse Reactions* listed above for Ovulen and Demulen are applicable to Enovid-E and should be observed when prescribing Enovid-E.

## Enovid-E®

brand of norethynodrel with mestranol

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***Where "The Pill" Began***

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tion to follow a career in medicine, and 10 schools (25.0%) rated a continuing desire for learning and self-education important. Intelligence above average was also cited by 10 schools (25.0%), while 9 schools (22.5%) emphasized compassion, warmth, and interest in others' welfare. Slightly less frequently, characteristics such as maturity, emotional stability, and honesty (6 schools, or 15.0%) were cited. A total of 65 desirable attributes were listed by the medical schools answering this question.

The results of this survey reveal a wide disparity among medical schools in definition of both the standards used in medical student selection and the desirable attributes of a physician. Comparison of the results of the two survey questions also reveals the possibility of a serious internal inconsistency between what is practiced and what is professed by our medical schools; e.g., most medical schools agree on ideal, humanitarian qualities as vitally important in a physician, while maintaining admission standards heavily reliant on such objective criteria as grade point average and MCAT scores which are in no way reflective of an applicant's overall character. If we are to accomplish our goal of improving the quality of doctors graduating from our medical schools, we must first define our expectations for the type of individual who can adequately fit the physician's role. On the basis of this definition, we must then establish in some uniform fashion the admissions criteria selective for this type of individual. We must also revise our educational philosophy to provide for the maximum development of the individual into the role of physician.

Accomplishing these worthy goals will be no mean task. The authors suggest that optimally long-term studies of at least one class of medical students, from matriculation through several post-graduate years, should be instituted in each of the six or seven major geographical regions of the United States and Canada in order to define most thoroughly the needs and course of action appropriate to each region. Following this, national collation of the data would give a detailed evaluation of medical education systems current in the United States and Canada, with a valid basis for suggesting improvements.

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# President's Page



It was my privilege to attend the recent meeting of the House of Delegates of the American Medical Association in San Francisco. Again, I was most impressed with the excellence of the conduct of the meetings and with the character and dedication of the participants, and I wish to take this opportunity to state that it is certain that the interests of South Carolina and its physicians are in excellent hands in the persons of Dr. Thomas Parker and Dr. John C. Hawk, the delegates, and of Dr. Harrison L. Peeples and Dr. C. Tucker Weston, the alternate delegates. Our delegates and other representatives from South Carolina worked hard during the meeting and there is no doubt that it requires hard work, concentration and study. It also requires a wide acquaintanceship among the other delegates and it requires the respect for our delegates by the others from all over the Nation. This was amply manifest throughout the time that I was privileged to participate in the proceedings.

A full report on the numerous resolutions which were proposed for adoption and the final actions taken will be available, no doubt, in the near future from our delegates. As one can see in our State, one could see that in the Nation there is also a wide diversity of opinion in the medical profession.

It is hoped that the diversity of opinion among the various members of the medical profession may be narrowed by the issue of the possibility of so-called National Health Insurance which confronts us today. No doubt the magnitude of the issue, and the even more magnitudinous appropriation that would be required to finance it, caused deferment of the matter by the Congress in session at present. But the lack of conclusion at the moment by no means would signify that the matter is dormant. The basic issue is whether or not the public can be served better at the same or lesser expense by the medical profession under our existing pluralistic system of rendition of medical care, or by an altered system which unquestionably would be characterized by endless additional red tape and the advent of impersonal care that has accompanied increasing third party participation by government especially in other countries. It has been ascertained by numerous impartial observers in Europe that governmental health programs have been characterized by over-crowding, inadequate and frequently out-dated facilities and equipment, shortages of personnel, impersonal attention, lack of privacy, and long waiting lists for admission to hospitals. In view of the fact that experiences in Europe have shown that medical care under national government administration and financing has not been successful in controlling costs or improving the quality of medical care, and in view of the fact that the system of practice in this country in the last 50 years has been associated with the greatest advances in the extent and complexity of medical knowledge and its practical application ever known to man, it seems clear that it would behoove the medical profession on behalf of the public, which is ignorant in these matters, to exhort and implore Congress to study further the advantages of what we possess before adopting any radical changes.

E. F. Parker, M. D.

# Editorial



**Edward E. Kimbrough, III, M.D.**

With the September issue of the *Journal* the new editor, Dr. Edward E. Kimbrough, III of Columbia will take over.

An orthopedic surgeon, Dr. Kimbrough is a native of Gainesville, Ga. He received his medical degree from Vanderbilt University in 1953. His internship and residency were spent at the University of Minnesota, Brooke Army Hospital and DeWitt Army Hospital. Dr. Kimbrough joined The Moore Clinic in Columbia in 1962.

He is a member of the board of directors of the Columbia Kiwanis Club and an elder of Shandon Presbyterian Church. He is an orthopedic consultant for the University of South Carolina football team and for the S. C. Crippled Children's Clinic. From February to March of 1967, Dr. Kimbrough served as volunteer physician for Viet Nam.

He is a member of many medical organizations and is at present editor of *The Recorder,* magazine of the Columbia Medical Society.

# SOUTH CAROLINA MEDICAL ASSOCIATION

## ANNUAL SESSION

## HOUSE OF DELEGATES

## MYRTLE BEACH, SOUTH CAROLINA

## MAY 15 - 17, 1972

The House of Delegates of the South Carolina Medical Association acted on the following items at its Annual Session held in Myrtle Beach, South Carolina, May 15 and 17, 1972:

I. REFERENCE COMMITTEE ON PUBLIC AND INDUSTRIAL HEALTH

1. Report of Medical Advisory Committee to the South Carolina Vocational Rehabilitation Department.
   Report Accepted As Information
2. Report of Advisory Committee to Crippled Children's Society
   Report Accepted As Information
3. Report of Committee on Mental Retardation
   Report Accepted As Information
4. Report of Committee on Industrial Medicine
   Report Accepted As Information
5. Report of Committee on Medical Aspects of Sports
   REPORT ACCEPTED AS INFORMATION, COMMITTEE CONTINUED AND PRESENT MEMBERS OF COMMITTEE REAPPOINTED
6. Resolution from Council concerning closed drug formulary
   (1) that the present closed drug formulary be voided;
   (2) open formulary be controlled by fixed dollar limit per month; and
   (3) copies of Resolution be sent to Gov. John C. West, Dr. Archie Ellis, Dr. William M. McCord, Dr. Hunter Rentz.
   Resolution Adopted
7. Report of Committee on Mental Health
   (a) asking approval of recommendation that there be appointed to the Committee non-psychiatrist physicians - one from Family Practice, one from Pediatrics and one from Internal Medicine -
   Recommendation Approved
   (b) Seeking endorsement of Committee's recommendation that the matter of the rapid expansion of social workers, nurses and ministers into the field of private counseling, without any medical supervision of people undergoing such therapy, be referred to the legal counsel of SCMA for study, advice and recommendation
   Recommendation Adopted
   (c) Recommendation that mental disorders be afforded same coverage and consideration from Medicare as other disorders for a reasonable spell of illness.
   Recommendation Adopted
   (d) Recommendation that commonly used antipsychotic drugs be placed on the Medicaid Formulary.
   Recommendation Approved
   (e) Recommendation that a minor tranquilizer be added to the Formulary for the treatment of emotional disorders
   Recommendation Approved
8. Report of Executive Committee of the State Board of Health
   (1) Priority #1 - that comprehensive health planning be pursued through S. C. with vigor.
   Recommendation Adopted
   (2) Priority #2 - that the most severe effects of hunger and malnutrition be eliminated in S. C. by 1974 - Ref. Committee recommended that the words "as rapidly as possible" be used in place of the words "by 1974".
   Recommendation Of Reference Committee Adopted
   (3) Priority #3 that an immediate beginning be made toward shifting the emphasis of health care in South Carolina to health maintenance - Ref. Committee recommended that this be laid on the table to await interest and direction of Medical Foundation of S. C. Medical Association
   Recommendation Of Reference Committee Adopted
   (4) Priority #4 that a comprehensive family planning program be developed was approved by the Committee.
   Recommendation Adopted
   (5) Priority #5 that the Mental Health Program be expanded through support for the Department of Mental Health's Developmental Plan was approved by the Committee.
   Committee Recommendation Adopted
   (6) Priority #6 that specific and direct in-

# if skin is infected, or open to infection...

# choose the topicals that give your patient–

- broad antibacterial activity against susceptible skin invaders
- low allergenic risk—prompt clinical response

## Special Petrolatum Base
## Neosporin® Ointment
(polymyxin B-bacitracin-neomycin)

Each gram contains: Aerosporin® brand polymyxin B sulfate, 5000 units; zinc bacitracin, 400 units; neomycin sulfate 5 mg. (equivalent to 3.5 mg. neomycin base); special white petrolatum q. s.
In tubes of 1 oz. and ½ oz. for topical use only.

## Vanishing Cream Base
## Neosporin®-G Cream
(polymyxin B-neomycin-gramicidin)

Each gram contains: Aerosporin® brand polymyxin B sulfate, 10,000 units; neomycin sulfate, 5 mg. (equivalent to 3.5 mg. neomycin base); gramicidin, 0.25 mg., in a smooth, white, water-washable vanishing cream base with a pH of approximately 5.0. Inactive ingredients: liquid petrolatum, white petrolatum, propylene glycol, polyoxyethylene polyoxypropylene compound, emulsifying wax, purified water, and 0.25% methylparaben as preservative.
In tubes of 15 g.

NEOSPORIN for topical infections due to susceptible organisms, as in impetigo, surgical after-care, and pyogenic dermatoses.

*Precaution:* As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

*Contraindications:* Not for use in the external ear canal if the eardrum is perforated. These products are contraindicated in those individuals who have shown hypersensitivity to any of the components.

Complete literature available on request from Professional Services Dept. PML.

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# When you select this familiar antibiotic for IV infusion you have available a broad dosage range that hospitalized patients may need.

Intravenous Lincocin (lincomycin hydrochloride, Upjohn), with its 1.2 to 8 grams/day dosage range, covers many serious and even life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. Lincocin IV therefore can be as useful in your hospitalized patients as its IM use has proved to be in your office patients. As with all antibiotics, *in vitro* susceptibility studies should be performed.

**1.2 to 8 grams/day IV dosage range:** Most hospitalized patients with uncomplicated pneumonias respond satisfactorily to 1.2 to 1.8 grams/day of Lincocin IV. These doses may have to be increased for more serious infections. In life-threatening situations as much as 8 grams/day has been administered intravenously to adults.

In usual IV doses, Lincocin (lincomycin hydrochloride, Upjohn) should be diluted in 250 ml or more of normal saline solution or 5% glucose in water. But when 4 grams or more per day is given, Lincocin should be diluted in no less than 500 ml of either solution, and the rate of administration should not exceed 100 ml/hour. Too rapid intravenous administration of doses exceeding 4 grams may result in hypotension or, in rare instances, cardiopulmonary arrest.

**Effective gram-positive antibiotic:** Lincocin IV is effective in respiratory tract, skin and soft-tissue, and bone

infections caused by susceptible strains of pneumococci, streptococci, and staphylococci, including penicillin-resistant strains. Staphylococcal strains resistant to Lincocin (lincomycin hydrochloride, Upjohn) have been recovered. Before initiating therapy, culture and susceptibility studies should be performed. Lincocin has proved valuable in treating patients hypersensitive to penicillin or cephalosporins, since Lincocin does not share antigenicity with these compounds. However, hypersensitivity reactions have been reported, some of these in patients known to be sensitive to penicillin.

**Well tolerated at infusion site:** Lincocin intravenous infusions have not produced local irritation or phlebitis, when given as recommended. Lincocin is usually well tolerated in patients who are hypersensitive to other drugs. Nevertheless, Lincocin should be used cautiously in patients with asthma or significant allergies.

In patients with impaired renal function, the recommended dose of Lincocin should be reduced to 25—30% of the dose for patients with normal kidney function. Its safety in pregnant patients and in infants less than one month of age has not been established.

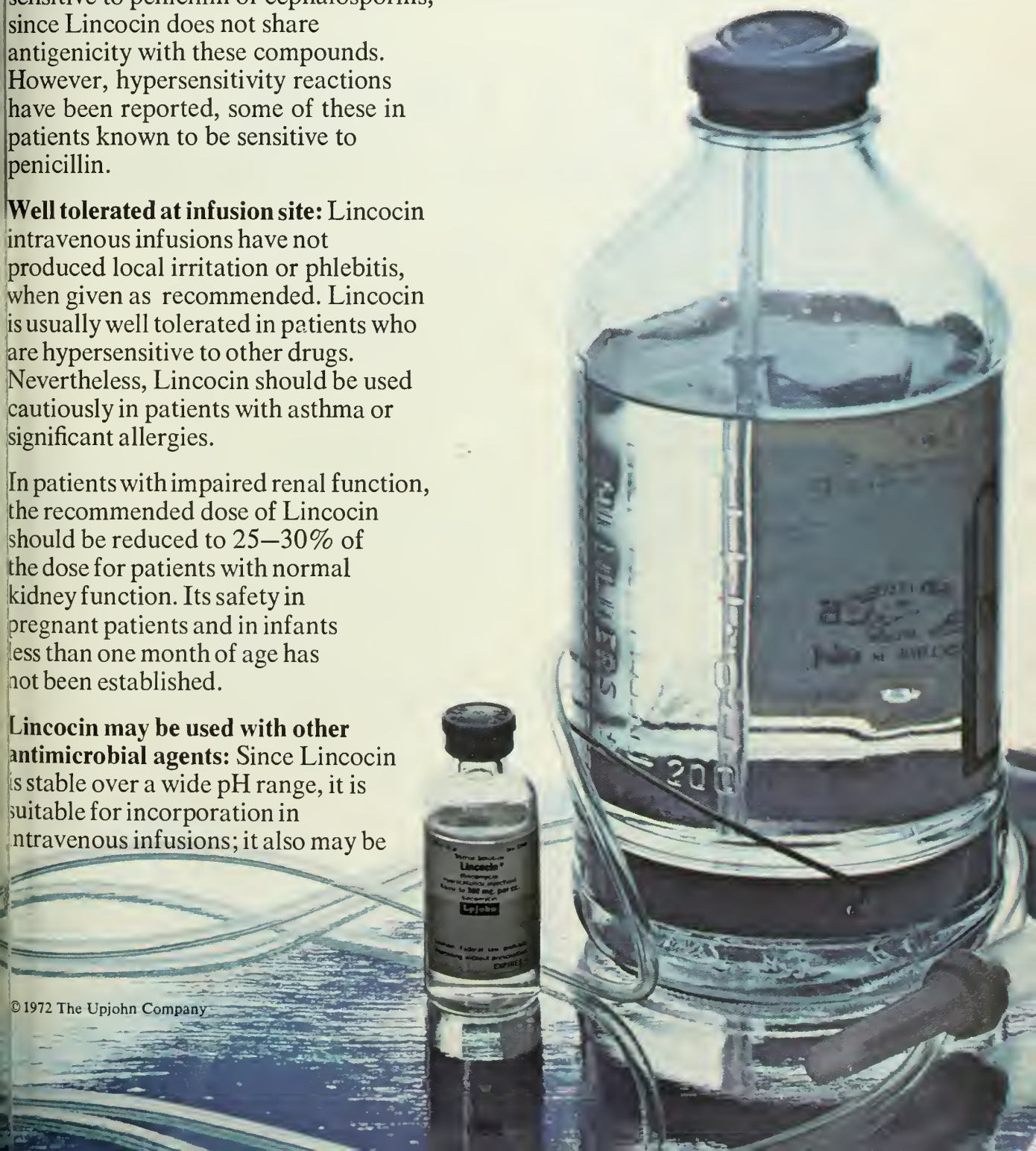
**Lincocin may be used with other antimicrobial agents:** Since Lincocin is stable over a wide pH range, it is suitable for incorporation in intravenous infusions; it also may be administered concomitantly with other antimicrobial agents when indicated. However, Lincocin should not be used with erythromycin, as *in vitro* antagonism has been reported.

# Lincocin®

Sterile Solution (300 mg per ml)

## (lincomycin hydrochloride, Upjohn)

For further prescribing information, please see following page.



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Sterile Solution (300 mg. per ml.)

# Lincocin®

# (lincomycin hydrochloride, Upjohn)

## Up to 8 grams per day by IV infusion for hospitalized patients with life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. As with all antibiotics, *in vitro* susceptibility studies should be performed.

| Each preparation contains: | Lincomycin hydrochloride monohydrate equivalent to lincomycin base |
|---|---|
| 250 mg Pediatric Capsule | 250 mg |
| 500 mg Capsule | 500 mg |
| *Sterile Solution per 1 ml | 300 mg |
| Syrup per 5 ml | 250 mg |

*Contains also: Benzyl Alcohol 9 mg; and, Water for Injection—q.s.

Lincocin (lincomycin hydrochloride) is indicated in infections due to susceptible strains of staphylococci, pneumococci, and streptococci. *In vitro* susceptibility studies should be performed. Cross resistance has not been demonstrated with penicillin, ampicillin, cephalosporins, chloramphenicol or the tetracyclines. Some cross resistance with erythromycin has been reported. Studies indicate that Lincocin does not share antigenicity with penicillin compounds.

CONTRAINDICATIONS: History of prior hypersensitivity to lincomycin or clindamycin. Not indicated in the treatment of viral or minor bacterial infections.

WARNINGS: *CASES OF SEVERE AND PERSISTENT DIARRHEA HAVE BEEN REPORTED AND HAVE AT TIMES NECESSITATED DISCONTINUANCE OF THE DRUG. THIS DIARRHEA HAS BEEN OCCASIONALLY ASSOCIATED WITH BLOOD AND MUCUS IN THE STOOLS AND HAS AT TIMES RESULTED IN AN ACUTE COLITIS. THIS SIDE EFFECT USUALLY HAS BEEN ASSOCIATED WITH THE ORAL DOSAGE FORM BUT OCCASIONALLY HAS BEEN REPORTED FOLLOWING PARENTERAL THERAPY.* A careful inquiry should be made concerning previous sensitivities to drugs or other allergens. Safety for use in pregnancy has not been established and Lincocin (lincomycin hydrochloride) is not indicated in the newborn. Reduce dose 25 to 30% in patients with severe impairment of renal function.

PRECAUTIONS: Like any drug, Lincocin should be used with caution in patients having a history of asthma or significant allergies. Overgrowth of nonsusceptible organisms, particularly yeasts, may occur and require appropriate measures. Patients with pre-existing monilial infections requiring Lincocin therapy should be given concomitant antimonilial treatment. During prolonged Lincocin therapy, periodic liver function studies and blood counts should be performed. Not recommended (inadequate data) in patients with pre-existing liver disease unless special clinical circumstances indicate. Continue treatment of β-hemolytic streptococci infections for 10 days to diminish likelihood of rheumatic fever or glomerulonephritis.

ADVERSE REACTIONS: *Gastrointestinal*—Glossitis, stomatitis, nausea, vomiting. Persistent diarrhea, enterocolitis, and pruritus ani. *Hemopoietic*—Neutropenia, leukopenia, agranulocytosis, and thrombocytopenic purpura have been reported. *Hypersensitivity reactions*—Hypersensitivity reactions such as angioneurotic edema, serum sickness, and anaphylaxis have been reported, sometimes in patients sensitive to penicillin. If allergic reaction occurs, discontinue drug. Have epinephrine, corticosteroids, and antihistamines available for emergency treatmen *Skin and mucous membranes*—Skin rashe urticaria, vaginitis, and rare instances of e foliative and vesiculobullous dermatitis hav been reported. *Liver*—Although no direct r lationship to liver dysfunction is establishe jaundice and abnormal liver function tes (particularly serum transaminase) have bee observed in a few instances. *Cardiovascul* —Instances of hypotension following pare teral administration have been reporte particularly after too rapid IV administr tion. Rare instances of cardiopulmonary a rest have been reported after too rapid I administration. If 4.0 grams or more admi istered IV, dilute in 500 ml of fluid an administer no faster than 100 ml per hou *Special senses*—Tinnitus and vertigo hav been reported occasionally. *Local reactio* —Excellent local tolerance demonstrated t intramuscularly administered Lincoci (lincomycin hydrochloride). Reports of pai following injection have been infrequen Intravenous administration of Lincocin i 250 to 500 ml of 5% glucose in distille water or normal saline has produced r local irritation or phlebitis.

HOW SUPPLIED: *250 mg* and *500 m* Capsules—bottles of 24 and 100. *Steril Solution, 300 mg per ml*—2 and 10 ml vial and 2 ml syringe. *Syrup, 250 mg per 5 m* —60 ml and pint bottles.

*For additional product information, consu the package insert or see your Upjoh representative.*

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struction in health, including sex education, of which family life education and reproductive responsibilities are essential phases, be required as a separate subject in the public system by the S. C. Department of Education was modified by the Ref. Committee by eliminating the phrases "including sex education, of which family life education and reproductive responsibilities are essential phrases".

Recommendation Of Reference Committee Adopted

8. Report of Executive Committee of the State Board of Health (cont.)

(7) The Committee recommended that Priority #7 requesting the Medical University of S. C to reorient its training to support the health maintenance concept be laid on the table.

Recommendation Adopted

(8) Priority #8 recommended that nursing home and boarding home services for the aged be closely monitored by appropriate State agencies.

Recommendation Approved

(9) Priority #9 concerning all public water systems in S. C. was modified to read: "that the public water systems in S. C. contain a minimum of 0.7 milligrams of fluoride per liter of water subject to local discretion of the political unit."

Recommendation Adopted As Modified

(10) Priority #10 concerning injury control was approved by the Committee.

Recommendation Approved

(11) Portion of Report of Executive Committee dealing with needed additional funds for State Crippled Children's Program was discussed.

Committee recommended endorsement of provision for additional needed funds.

Recommendation Adopted

(12) Portion of Report of Executive Committee dealing with funds for vector control program was considered

Committee recommended that SCMA endorse provision of sufficient funds for emergency situations, to purchase insecticides and to properly maintain the vehicles.

Recommendation Adopted

9. S C. Maternal Mortality Review for 1969 (Lines 10-51, Page 7) was reviewed by the Committee. Committee recommended that SCMA endorse the 10 recommendations it contained.

Recommendation Of Committee Adopted

10. Resolution of Columbia Medical Society regarded the recent change in policy of the Department of Defense regarding the work of medical officers in civilian medical situations in their off-duty hours.

The Committee amended this Resolution as follows:

Resolved, That the South Carolina Medical Association formally requests the Department of Defense to reconsider its policy concerning the medical corps and allow military physicians who so desire and who are so approved by their local commanding officers to assist the local medical communities in their off-duty hours without infringement on their military duties; and be it further

Resolved, That a copy of this Resolution be sent to the Surgeon General's office and to Senator Strom Thurmand.

Resolution Of Columbia Medical Society Adopted As Amended

II. Reference Committee On Reports Of Council And Officers

The following Reports summarized the activities of the respective offices during the past year:

1. Report of the President, John P Booker, M.D.
2. Report of the President-elect, Edward F. Parker, M.D.
3. Report of the Chairman of Council, Harold P. Hope, M.D.
4. Report of the Secretary, D. Strother Pope, M.D.
5. Report of the Executive Secretary, M. L. Meadors
6. Report of the Treasurer, J. Howard Stokes, M D.
7. Report of the State Board of Medical Examiners, Harold S. Gilmore, M.D.
8. Report of the American Medical Association Delegates, Thomas Parker, M.D. and John C. Hawk, Jr., M.D
9. Report of SocPac, Donald G. Kilgore, M.D.

All Reports Approved

10. The Committee considered the Recommendation from the State Board of Medical Examiners rejecting Resolution from Chesterfield County Medical Society introduced last year; also considered a similar Resolution from Chester County Medical Society introduced the first day of this session.

The Reference Committee recommended acceptance of the Recommendation of the State Board of Medical Examiners and also stated: "However, the Association probably should consider establishing awards or commendations to those physicians who take post-graduate courses or other educational devices to further their medical education and quality of patient care"

Recommendation Of Reference Committee Approved And Referred To Council

III. Reference Committee On Legislation And Public Relations

1. Report of Committee on Public Relations - Committee recommended:

(a) that a Public Information Committee be activated;

(b) that a Speakers' Bureau be established on a voluntary basis; and

(c) that the Association consider the feasibility of retaining a public relations firm on a part-time basis.

Recommendations Approved And Referred To Council

2. Resolution from Council on Physician Draft - Committee recommended that our Congressional Delegation be urged to support legislation or directives which would give South Carolina credit for those physicians who volunteer or enter service through the ROTC, NROTC, Berry Plan, or any other volunteers.

Recommendation Of Reference Committee Adopted

3. Resolution from Sumter-Clarendon Medical Society to prevent minutes and peer review material in hospital and medical meetings from being subpoenaed for use in civil law suits was considered.

The Reference Committee recommended that all possible support be given to the present bill before the Legislature which would exempt professional societies and medical staff peer review committees from tort liability and that the present Resolution be deferred until this is accomplished.

Recommendation Of Reference Committee Adopted

4. Report of Dr. D. Strother Pope, Secretary, was considered also by this committee. Dr Pope was commended for his interest and leadership in establishing and maintaining the First Aid Station in the State House.

Committee recommended that each county society arrange joint meetings with their delegation to promote better understanding and rapport with our political leaders.

Committee's Recommendation Adopted

5. Report of Legislative Affairs Committee was referred to this Committee.

(a) Committee recommended that the Legislative Activities report should be sent to the entire membership of the Association on a current basis as soon as feasible.

Recommendation Adopted

(c) Recommendations concerning First Aid Station at State House:

1) Consider a "Doctor of the Day" Program to bring physicians from over the State to staff Station; and

2) That a permanent committee of the Association be established to assume responsibility for the operation and staffing of this aid station.

Recommendations Adopted And Referred To Council

(d) Reference Committee recommended support of Bill H-2547 - as amended so State Health Officer may allow Board of Pharmaceutical Examiners to appoint drug inspector.

Recommendation Adopted

(e) Reference Committee urged support of Bill to exempt professional societies or medical staff peer review committes from tort liability.

Adopted

(f) Reference Committee considered Senate Bill 493 (to provide minors with medical service without parental consent) and urged consideration of excluding procedures which Legislature might feel obnoxious, abortions, sterilizations and the like.

Recommendation of Reference Committee Adopted

5. Report of Legislative Affairs Committee (continued)

(g) Reference Committee recommended continued support of House Bill 2887 to establish medical examiner system for South Carolina.

Adopted

(h) Reference Committee urged support of Physicians' Assistant Bill without amendments.

Adopted

(i) Reference Committee recommended support of House Bills 3052 and 3053 to provide scholarships for medical and dental students.

Adopted

(j) Reference Committee recommended opposition to House Bill 3107 to allow podiatrists to prescribe narcotics.

Reference Committee's Recommendation Adopted

(k) Reference Committee recommended support of House Bill 1716 to prevent advertisement by physicians, dentists, osteopaths, optometrists, opticians and chiropractors.

Adopted

IV. Reference Committee On Insurance, Blue Cross - Blue Shield

1. Report of Committee to Negotiate a Fee for Service Policy with Blue Shield

Report Received As Information

2. Resolution from Charleston County Medical Society - Disassociation of SCMA from Blue Cross - Blue Shield

Resolution from Columbia Medical Society - Physicians of SCMA no longer designated as participating physicians of BS; News media publicity generated; BS asked to honor assignments of all physicians and surgeons; and President of BS no longer a member of Council of SCMA

Resolution from J. D. Gilland, M.D. - Amendment to Constitution to delete "President of Board of Directors of the South Carolina Medical Care Plan" and substitute "Chairman of Board of Directors of Blue Shield of South Car-

olina".

The House considered the following Substitute Resolutions in lieu of the Resolutions from Charleston County Medical Society, Columbia Medical Society and J. D. Gilland, M.D.:

(Substitute Resolution No. 1) Resolved, That Article VI, entitled "Council" be amended to delete the words "and the President of the Board of Directors of South Carolina Medical Care Plan".

Substitute Resolution No. 1 Adopted

(Substitute Resolution No. 2) Resolved, That Blue Shield be directed to use caution in the use of the term "South Carolina Medical Association" is its sponsor, and be it further

Resolved, That no further action be taken at at this time.

Substitute Resolution No. 2 Not Adopted

(Substitute Resolution Presented by Forde A. McIver, M. D.) Resolved, That the South Carolina Medical Association disassociate itself from Blue Cross - Blue Shield.

Substitute Resolution By Forde A. McIver, M. D., Adopted

V. Reference Committee On Miscellaneous Business

1. (a) Recommendation from Student Body President (Jerry Jebaily) that the SCMA hold its annual convention at the Medical University was considered by our Committee. The Committee recommended that the SCMA cooperate in every way to increase involvement of the Medical University students with the practice of medicine so that social contact with the practicing physicians of the state and the students is encouraged; and also that we request Dr. William McCord to aid in developing this type of relationship.

Recommendation Of Reference Committee Adopted

(b) Recommendation from Student Body President that SCMA send several interested students to AMA Convention was also considered. The Committee recommended that 2 Delegates from the Medical University Student Body be sent - the President of the Student Body and the President of the Student American Medical Association.

Recommendation Adopted And Referred To Council

2. Report of the South Carolina Foundation for Medical Care was received as information. The Committee recommended that the Board of Directors of the Foundation institute better communications with the practicing physicians of S. C. regarding the Foundation both by newsletters and by arranging for members of the Board to speak concerning Foundations at the society meetings.

Recommendation Adopted

3. Resolution from Greenville County Medical Society regarding commendation to M. Gordon Howle, M.D., was referred to this Committee. The Committee recommended that the Resolution be approved and further recommended that the Executive Secretary present an appropriate plaque to Dr. Howle.

Recommendations Of Reference Committee Approved

4. The Committee recommended that the Report of the Committee on Medical Services be received as information and the Committee's activities be continued.

Approved

5. Report of the Peer Review Committee was referred to this Reference Committee, which recommended that it be received as information and that the following 5 recommendations from that Report be adopted and further that the Committee's activities be continued:

(a) The endorsement and approval of the concept of continual peer review;

(b) That such peer review be accomplished, in so far as is practicable, at the "local" level through the general participation of all physicians to establish local peer review committees;

(c) That each formally organized branch of medicine in South Carolina be asked to establish a "Peer Review Board";

(d) That the State Peer Review Committee receive and review all matters referred to it by the Peer Review Boards; and

(e) That the Association move toward enactment of such State legislation as is necessary to provide appropriate immunity for all participants in peer review activities.

Adopted

6. The Committee recommended that the Report of the Committee on Medicine and Religion be received as information and the Committee be commended for the programs they have presented to the state meetings.

Approved

7. The Reports of the following Committees were received as information:

Committee on Eye Bank;

Advisory Committee to the Woman's Auxiliary ; and Mediation Committee.

Approved

8. The Committee recommended that the Report of the Committee on Liaison with Allied Professions be received as information and in view of the present situation re-

garding H. M. O., Foundations, etc., that increased activity from this Committee be stimulated during the next year.
Adopted

VI. Reference Committee On Constitution And Bylaws

1. The Reference Committee recommended that Resolution presented by the Standing Committee on Constitution and Bylaws directing that the Executive Secretary's office notify each county society of the requirement of reporting non-affiliated physicians and a conscientious attempt to comply with the requirements for early collection and remittance of dues by each county society be adopted.
Adopted

2. Chester County Medical Society's Resolution to require 150 post-graduate hours of approved study every three years as a prerequisite for active membership in the SCMA was considered by the Committee. The Committee recommended rejection of of this Resolution.
Resolution Not Approved

3. A Resolution from Council called for an amendment to the Bylaws relating to the membership of residents and interns in the Association.
The House considered the following Substitute Resolution by Harrison L. Peeples, M.D.:
Resolved, That the interns and residents who are active participants in county societies be admitted as full members to the South Carolina Medical Association at one-fifth dues; that the number of delegates so affected be represented from within the intern and resident body membership; and that they would have their own representatives at the same rate as the county medical societies.
Substitute Resolution Not Adopted
Resolution From Council Referred Back To Council For Further Study And Referral To Proper Committee

4. Excerpt from Dr. J. P. Booker's Report as President concerning admission of the President of the Student Body or of the Senior Class at the Medical University as a member of the House of Delegates was amended as follows:
Resolved, That the President of the Senior Class of the College of Medicine at the Medical University of South Carolina be seated as a Delegate to the House of Delegates, with full voting rights.
Substitute Resolution Adopted
Requires Amendment To Constitution - Will Lay On Table Until Next Year

VII. New Business

1. Motion by Thomas Parker, M.D., that the Speaker and Vice-Speaker be commended for their preparation of the Handbook; that they continue the practice and that the Committees and Officers render their Reports and Resolutions to them in time for them to be included in next year's Handbook.
Approved

2. Motion was made by J. P. Booker, M.D., that the business transacted at the last session of the Convention be included in the Handbook and a copy be sent to each Delegate.
The House considered the following Substitute Motion by John C. Hawk, Jr., M.D.:
That the Executive Offices be directed to prepare copies of the final actions of the House on the Reports of the Reference Committees to be published in the next issue of the Journal.
Substitute Motion Adopted

3. Motion by Norman Eaddy, M.D., that Thomas Parker, M.D., Delegate to AMA, be allowed to present a proposed Resolution to the House of Delegates so that he could then present it on behalf of SCMA at the AMA meeting.
Approved

4. Resolution by Thomas Parker, M.D., to be presented to AMA House of Delegates at its June meeting was considered.
Resolved, That the AMA establish the editorial policy that when an article refers to a drug by its generic name, the generic name be accompanied by the trade name or names of the drugs employed by the author or authors, thus assisting physicians in assessing the results reported and emphasizing existing AMA policy that prescription by trade name is desirable for maintenance of professional freedom.
Adopted And Is To Be Presented To AMA House At Its June Meeting

5. Motion was made that a letter of thanks on behalf of the Convention be written to Max H. Parrott, M.D., Chairman of the Board of Trustees of AMA, and William Cooper, M.D., of AMPAC, for their contribution to our meeting.
Approved

VIII. Elections

The following physicians were elected to the office specified at the 1972 Annual Meeting in Myrtle Beach:

Officers:

| | |
|---|---|
| President-Elect: | Harold P. Hope, M.D. |
| Vice President: | Kenneth N. Owens, M.D. |
| Treasurer: | J. Howard Stokes, M.D. (Elected by Council) |
| Secretary: | D. Strother Pope, M.D. |

Delegate To A. M. A.:
Thomas Parker, M.D.
Alternate Delegate To A. M. A.:
Harrison L. Peeples, M.D.
Councilors

| | |
|---|---|
| First District - | A. Richard Johnston, M.D. |
| Fourth District - | Donald G. Kilgore, Jr., M.D. |
| Seventh District - | Michael Holmes, M.D. |
| Eighth District - | Randolph D. Smoak, M.D. |
| Ninth District - | Euta M. Colvin, M.D. |

Mediation Committee:

| | |
|---|---|
| First District - | Arthur S. Jenkins, M.D. |
| Fourth District - | William J. Bannen, Jr., M.D. |
| Seventh District - | Davis D. Moise, M.D. |

Peer Review Committee:

| | |
|---|---|
| First District - | Thomas W. Messervy, M.D. |
| Fourth District - | Lucius M. Cline, Jr., M.D. |
| Seventh District - | Wallis D. Cone, M.D. |

Benevolence Fund Committee:
Louis P. Jervey, M.D.
State Board of Medical Examiners:
6th Congressional District -
Harold S. Gilmore, M.D.
Member-At-Large -
Leonard W. Douglas, M.D.
Hospital Advisory Council To State Board of Health:
Laurie L. Brown, M.D.
State Board of Nursing Examiners:
Andrew J. Whitaker, M.D.
The House Confirmed Myrtle Beach, South Carolina, As The Location Of The 1975 Annual Convention.

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## REPORT OF DR. THOS. PARKER, DELEGATE TO THE A.M.A.

THE AMA ANNUAL MEETING 1972-S.F.

San Francisco is a beautiful city and the weather and accommodations were fine, but the work load at AMA meetings becomes heavier and heavier.

Because the AMA is reporting its meetings more rapidly, widely and fully than I can, it seems to me that my reports, though honest and factual, should become more interpretive and less detailed than they use to be.

Early in May, delegates and alternates received two official volumes, the first being a report of the clinical meeting in New Orleans, just passed, and the second the Handbook for the coming Annual meeting in San Francisco to start June 18th. The latter contained floor plans of the hotel and meeting rooms, 171 pages of reports of trustees, councils, and other official matters, and 64 resolutions. Registration began on June 17th and the convention opened on June 18th at 2 P.M. The official handbook, now containing more reports and 120 resolutions, became available the morning of June 18th. Consideration of the reports by nine committees meeting simultaneously commenced June 19th, and the House started final action on the committee reports on June 20th. To handle this material and cover the nine committees, your society had two delegates, one alternate (the other being sick), your state president, and one volunteer who was accompanying his wife, who was there on auxiliary business. Your executive secretary and his assistant were also at the meeting attending to their affairs.

Almost immediately we were contacted by members of SAMA, with whom we were in almost constant contact thereafter. It seems that SAMA had a summer program planned for South Carolina. Some 25 students were to be located in areas of need, mostly rural, in which they would study the needs of the people, the quality and methods of delivery of medical care, and assist physicians and health departments in various ways, in some cases under preceptor physicians. This is a $45,000 project and they had expected OEO funding, and some of the participants were on route to South Carolina at this time. Due to bureaucratic logistics, they had been turned down peremptorily and unexpectedly by the Atlanta OEO office June 13th, and so they had come to the AMA requesting funding. The AMA properly requested approval by the South Carolina Medical Association.

Now none of our group had heard anything about this previously. We expressed regret that we had not been approached, since we not only lacked knowledge of the proposition, but also lacked any authority to take definitive action. After considerable investigation, SAMA proved that it had indeed notified the SCMA of the project in February, the letter requesting suggestions; but for some reason the letter got no further than the recipient and there had been no answer. SAMA, acknowledging our impotence in the matter, stated that the only action now requested was that we should notify the Board of Trustees of AMA that we did not oppose the project. We now received several telegrams from persons in South Carolina stating that they were aware of the project, and urging us to approve it. Finally, all things considered, including the facts

that the South Carolina Medical Association was not completely without fault in this matter, and that both the SCMA and the AMA were assiduously cultivating good relations with medical students, interns and residents, your delegates having apprised the Board of Trustees of the circumstances, did inform the Board of Trustees that we would raise no objection to the program, thus assuring AMA funding.

Incidentally the entire meeting was noteworthy for the efforts by AMA to welcome SAMA and the Section on Interns and Residents into active and meaningful participation in the AMA. Steps were taken to encourage interns and residents to join and become active in their county and state medical societies and the AMA, and with reduced dues. The Section on Interns and Residents had an official and vocal delegate in attendance. Steps were taken to enlarge the councils on medical education and medical service to include a member from the Section on Interns and Residents, and possibly a representative on the Liaison Committee on Graduate Medical Education, and the Coordinating Council on Medical Education, both new organizations.

Your delegation opposed the composition of both of these committees. Until now, both of these activities, having been undertaken by the AMA fifty years ago following the Flexner report, have been completely under AMA control. Now the Liaison Committee on Graduate Medical Education shall be composed as follows:

| | | |
|---|---|---|
| AMA | 4 | representatives |
| American Board of Medical Specialties | 4 | " |
| Association of American Medical Colleges | 4 | " |
| Council on Medical Specialty Societies | 2 | " |
| American Hospital Association | 2 | " |
| The Public | 1 | " |
| The Federal Government | 1 | " |

The AMA will continue to provide most of the money for the committee and the necessary staff.

The Coordinating Council on Medical Education will consist of

| | | |
|---|---|---|
| AMA | 3 | representatives |
| Association of American Medical Colleges | 3 | " |
| American Board of Medical Specialties | 3 | " |
| Council on Medical Specialty Societies | 3 | " |
| American Hospital Association | 3 | " |
| The Public | 1 | " |
| The Federal Government | 1 | " |

A motion was passed to provide one representative from the Section on Interns and Residents for the Coordinating Council, which motion your delegates supported.

Expenses are to be borne by the various organi-



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zations, with staff and secretarial services for the time being from the AMA.

Your delegates could see no good reason for the AMA to strip itself of its authority in these matters, but could not prevent the action.

Gun control came up. There were two conflicting resolutions, the first advocating strict penalties for those who used guns in committing crimes, the second supporting federal legislation of unspecified nature for gun control. We supported a substitute resolution which passed. This deplored the use of any weapon for criminal purposes, and advocated strict penalties for such action.

There were lots of discussions about marijuana. The position finally taken deplored its use, would prohibit its use in public, would deny alleged marijuana intoxication as a defense in any court action, and suggested that the possession of insignificant amounts for personal use or gift (not sale) be regarded as no more than a misdemeanor.

Resolution number 118 was interesting. It was sponsored jointly by five state associations. In the years I have attended AMA conventions, I have never seen a resolution sponsored by several states. I have seen identical or similar resolutions sponsored by individual states. We were told that efforts had been made through AMA headquarters to obtain sponsorship by all states. If such a request was received by SCMA, it did not reach its delegates.

In our opinion the resolution was subtle and dangerous. It was meticulously worded in general and obscure language, using such expressions as "economic or environmental deprivation", "opportunity to be born healthy", "conditions which cause human blight", "end to fragmentation", and "a new interdependent relationship among all governmental, social, welfare, health, medical, educational, religious, and legal agencies".. Incidentally, according to the AMA Daily Bulletin for June 21, 1972, "The 'Declaration of Interdependence' was signed by the AMA and many other national organizations at the conclusion of the March AMA Congress on the Quality of Life". In our opinion, this resolution was designed to implement the "child development" program delineated at the 1970 White House Conference on Youth, and elsewhere, and eventually in a totally regimented and centrally controlled society. It was possible to refer it for further consideration without other action at this time.

There was a lot of talk about peer review. The final decision was that peer review regarding the quality of medical care was of long standing and proper; and that when the concept of the third party payor had been accepted by the medical profession, the public had become entitled to some authority regarding the financial aspects of the provision of health care. This is a right sticky proposition, requiring differentiations between medical and health care which are still poorly understood in some quarters. The AMA is in favor of PR and is opposed to PSRO (the Bennett Amendment). The distinction





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tends to blur, and is susceptible to corruption through patient gradualism.

Dr. Hall's Presidential Address was very different from his preceeding two, and might almost be called a benediction. He suggested that we might soon have an over-supply of doctors and medical schools and considered how we could determine the kinds of doctors needed as well as the numbers. He urged all doctors, and especially young doctors, to become active in organized medicine. He suggested rejuvenation of a national speaker's bureau. He again suggested an outside competent management survey of AMA administration now and from time to time.

In this connection, the House directed that its members be promptly polled by mail as to the number of terms and length of terms for which Trustees should be elected. It suggested that each state association review from time to time its own practice regarding election and tenure of its delegates.

Dr. Hoffman's inaugural address, "This is the House Of Medicine" opened with the supposedly rhetorical question: 'Shall it be a House united - or a House divided?" (Your delegation had already presented testimony before the Council on Long Range Planning and Development that the AMA could not speak with an authoritative voice as long as it proclaimed itself to be an "umbrella organization" speaking for the medical profession as a whole-that it had better come out unashamedly in support of the practice of private medicine. It is at least debatable whether it can even do this under existing circumstances.) Dr. Hoffman then pointed out that "Unionism for the physicians would be the very antithesis of individualism", since unionism "achieves its power by carefully controlled conformity". The ultimate power of unionism lies in the strike, which would be "a violation of medical ethics."

He continued that "Americans by and large still believe in their doctors", which trust is our greatest strength and therefore our most precious possession as a profession". In place of "controlled conformity", he urged "unity - acceptance of a representative consensus.

He advocated increased involvement by all physicians in organized medicine, and emphasized the need for adequate communication between the AMA and its members.

He discussed peer review briefly, including the necessity for "certain controls by those who pay the bills".





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In mentioning continuing medical education, he said that the medical profession must "develop new and clearly recognizable mechanisms that will both educate and test".

He suggsted that "the next major advance in the health of the nation" will come "through public education in health care". "We must persuade the American people that – next to genetics – the single most important factor is life style – that even more important environmental pollution is personal pollution".

He is going immediately to visit England, Sweden, Russia, and perhaps China, to see what we can learn from them to use in improving our delivery of health and medical care.

His closing remarks were addressed to the young, and concluded, "Alter this House as you will - strengthen it if you can - but above all preserve it".

There were many other matters of importance that were dealt with, some by definitive action, some by evasion, including restrictive covenants, problems in the use and remuneration of physicians' assistants, objectionable practices of third party payors (Medicare & Aetna), cost comparisons between public and private medical care programs, mechanisms to provide medical care to underprivileged areas, release of information from hospital medical records, RMP's, venereal disease control, AMA finances and membership benefits, etc. These cannot be considered adequately here.

In the elections, some offices were uncontested. Besides these, we supported more or less openly, three candidates who won and four who lost We hope that in the future our friends will be grateful and our enemies forgetful.

We enjoy these meetings, not only for the travel, food and drink, but for the companionship with old friends from near and far. But what are we going to do about friends who are intelligent, kind, honest, and influential, but so naive and innocent of the nature of evil as to be gullible? With this thought in mind, some of us will try to rise in the organization structure to obtain political power, and others will endeavor to explain the truth as we see it, popular or not, without fear of political embarassment. It is hoped that this dual approach will increase our effectiveness. Your delegation remains in essentially complete accord on philosophical and economic matters.

Thomas Parker, M.D.




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# ABSTRACT OF MINUTES OF COUNCIL
# SOUTH CAROLINA MEDICAL ASSOCIATION
## Myrtle Beach, S. C.

May 14, 1972

A resolution from the Greenville County Medical Society noting that the Greenville County Medical Society recognized Dr. M. Gordon Howle's continuing contributions to medical education, and thanked and commended him for the same, and requested the S. C. Medical Assn. give Dr. Howle similar deserved recognition. This resolution was passed.

Dr. Howard Stokes, Treasurer, received a standing ovation honoring the bestowal of a Doctor of Laws Degree upon him by the Francis Marion Junior College.

Dr. Strother Pope made no formal report but did comment on what Richland County Medical Society has done to bring about better relations and understanding between the Bar, Legislature and the Medical Association. He asked permission of Council to write a vote of thanks to the two volunteers who have manned the First Aid Station in the State House for both houses of legislature – Miss Myra Cash and Miss Mary Ann Flynn. He commented that members of both houses had expressed their gratitude and appreciation for the First Aid Station. It was also suggested that this be done again next year. Dr. Pope expressed his concern about the lack of interest of most doctors in either medical or medical-political affairs.

Dr. Johnson moved that Council give Dr. Pope a standing vote of thanks for the work he has done in this field.

Mr. Pugh gave the status of various bills in which SCMA is interested, stating that it is hoped that the Bill to add members appointed by the Governor to various Boards would die in committee.

Mr. Meadors stated that the Foundation's Charter was issued on October 5, 1971. A letter was sent to all licensed physicians in South Carolina inviting them to join the Foundation. To date, the Foundation has 500 members, some 40 of whom are not members of SCMA. The Officers of the Foundation are: Dr. Waitus O. Tanner, President; Dr. Halstead Stone, Vice President; Dr. Strother D. Pope, Secretary and Treasurer, and Mr. M. L. Meadors, Executive Director.

Mr. Meadors reported that the 1½ acres of land on which the Permanent Home is to be built was purchased at a cost of $65,340. Title was delivered by Mr. John C. B. Smith on April 14. To do this, $57,000 of the funds for this purpose were used.

Dr. Weston explained that it was necessary for the Association to have a rush job on the survey neccessary before the purchase of the property so it may be necessary for SCMA to pay the $350 usually paid by the seller. Dr. Tanner moved that SCMA assume responsibility for this fee. Dr. Stokes seconded.

Dr. McIver moved that Dr. Tanner's motion be amended to the effect that Dr. Weston ask the seller to assume all or part of this fee and, if he refused, then SCMA will assume same. Dr. Tanner seconded. Motion voted on and carried.

Mr. Meadors gave the report of the Editor and announced that Dr. Buckland Thomas was leaving the state and, therefore, we would need a new Editor. Action on this was deferred until the June meeting. Dr. Thomas' secretary and Dr. Waring will be able to carry on until that time and nominations will have to await action by Dr. Waring's Board.

Dr. Max Parrott then addressed Council regarding AMA's efforts to establish communication between AMA and local societies. It is AMA's desire to act as a source of communication relative to the national problems as well as local problems. AMA is also plugging for membership. AMA is going to put on a concerted program over the next year or two to create a better climate of communication. AMA is doing a little better than before with Congress. PSRO will more than likely pass. HMO will hopefully be kept on a trial basis. They don't know just what will happen yet. AMA would like to separate the scientific operations and the business operations and act as a kind of umbrella for the two operations.

Dr. McIver moved that the following Resolution be adopted:

Resolved that the Association seek to obtain passage of the necessary legislation or administrative direetive to secure a fair and equitable application of the physician draft so as to recognize the contribution of those States whose volunteer enlistment is at a high level. Passed.

Dr. Stokes expressed his happiness in belonging to Council and thanked Mr. Pugh for his tremendous help in opposing and/or supporting certain legislation in which the opthalmologists were interested and thanked Mr. Meadors for his untiring assistance in their behalf.

Dr. Stokes then reviewed the Treasurer's Report which had already been presented to Council and announced that the Investment in Mutual Funds has increased in value $1,500.

Dr. Weston read a resolution adopted by the Columbia Medical Society. Dr. Thomas Parker moved that a similar Resolution be presented to the House of Delegates as follows:

Whereas, the State of South Carolina and the citizens of said State have had a cordial relationship with the Service personnel at various Military Installations over many years.

Whereas, the medical officers assigned to duty at these various Military Installations have been most helpful in meeting an urgent need in rendering med-

ieal care to the citizens of this State in their off-duty hours, and

Whereas, this has proven beneficial to the State and to these Military Physicians in giving them a broader medical experience during their tour of duty; therefore, be it

Resolved, that the South Carolina Medical Association, on this 15th day of May, 1972, formally request the Department of the Army to reconsider its policy of the medical corps and allow military physicians who so desire to assist the local medical communities, in their off-duty hours without infringing on their military duty. Carried.

Dr. Booker moved that the Chairman of Council appoint a committee composed of the three last Vice-Presidents (the current Vice President to serve as Chairman), said committee's purpose being to recruit new members for SCMA.

Dr. Stokes was elected to succeed himself as Treasurer.

The following were nominated for the Mediation Committee: First District, Dr. Bartolo M. Barone of Charleston and Dr. Arthur S. Jenkins of Beaufort; Fourth District, Dr. William J. Bannen, Jr. of Simpsonville, and Dr. Robert G. Mann of Easley; Seventh District, Dr. David D. Moise of Sumter and Dr. Samuel E. Miller of Georgetown.

The following were nominated for the Peer Review Committee: First District, Dr. William H. Cain of Charleston and Dr. Thomas W. Messervy of Summerville; Fourth District, Dr. Henry W. Kistler, Jr. of Seneca and Dr. Lucius M. Cline, Jr. of Greenville; Seventh District, Dr. Wallis D. Cone of Sumter and Dr. T. Marion Davis of Manning.

Dr. Count Pulaski, Jr. of Hampton was elected to succeed Dr. Peeples on RMP. Dr. Dexter B. Rogers of Easley was elected to succeed Dr. William H. Hunter on RMP.

There was much discussion about the change in emphasis in the RMP and the diversion of funds intended for RMP to the HMO program. Dr. Booker read a Resolution adopted by the California Medical Association pertaining to the change in RMP's emphasis and noting that they, too, disapproved of the use of any funds being diverted from RMP to HMO.

After discussion, Dr Klauber moved that the following Resolution be adopted: Resolved that attendance at meetings of Council by non-members be by specific invitation of Council or of the Chairman of Council with stipulation as to that portion or those portions of the meeting at which attendance is requested. Passed.

Dr. Hope stated his intention to request the endorsement of the House of Delegates of Council's temporary acceptance of the Medex Program.

Dr. Hope introduced Mr. J. D. Cappleman, Jr., who presented a plan submitted by the Continental Casualty Company, Chicago, Illinois, to be administered by the General Agency, Charleston, S. C., and recommended that Council accept and use the plan. This plan was received as information.

Dr. Gilland was elected to succeed the late Dr. Joseph Cain on the Insurance Committee.

Dr. Hope asked Council's wishes about negotiating for the ½ acre of land adjoining the property just purchased for the Permanent Home at $2 a square foot. After much discussion, Dr. Hawk moved that said ½ acre be purchased. Carried.

Dr. McIver moved that the ½ acre not be purchased if it carried the building restrictions that the 1½ acres just purchased carried. Not carried.

In answer to Dr. Hope's question as to whether a different committee should be appointed to handle the building of the Permanent Home, Dr. Gilland moved that another committee be appointed. Dr. Booker seconded. Motion voted on and carried.

Dr. Pope moved that the new committee be composed of one member from each district. (Members of Council were to poll their groups and make a recommendation at the June 28th meeting.)

Dr. Gilland moved that Article VI of the By-Laws be amended by changing "and the President of the Board of Directors of the South Carolina Medical Plan" to "Chairman of the Board of Directors of the Blue Shield." Dr. Kilgore seconded. Tabled.

Dr. Gilland briefed Council on the Committee to serve with Pharmaceutical Members on Category of Illnesses and Drugs. It is Dr. Gilland's opinion that this committee is now a subcommittee of the Committee to Administer Drugs under Title XIX. Dr. Archie Ellis requested Dr. McCord to appoint certain people as a committee to investigate the Drug Committee. This, Dr. McCord would not do, but he did appoint Dr. L. P. Jervey, Dr. E. C. Proctor and a Mr. Webb and left the fourth position open. The Drug Evaluation Committee recommended to Dr. Ellis was ignored and he appointed his own.

Dr. Peeples asked what Council would like for this committee to do since it has been most ineffective for the past year. Dr. Tanner moved that in the future, beginning as of now, if any member of the Association serves on the Drug Evaluation Committee under Title XIX that he does so as an individual and not as a representative of this Association. Carried.

Dr. McIver reported on the discrepancies between Government approved construction and free enterprise construction and expressed his complete disapproval of the manner in which the Government is taking over controls of free enterprise. Dr. Hawk moved that Dr. McIver's report be approved by Council and that he, Dr. McIver, draw an appropriate Resolution to be presented to the House of Delegates. Carried.

Dr. Booker reported that he had received a letter from Farmers Home Administration stating they would like to encourage doctors who would prefer to go onto remote areas of the State to practice rather than be drafted, to do so. Dr. Booker replied that SCMA would be in favor of anything that would help the health of our citizens but that there would

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*Indications:* Stable adult diabetes mellitus; sulfonylurea failures, primary and secondary; adjunct to insulin therapy of unstable diabetes mellitus.
*Contraindications:* Diabetes mellitus that can be regulated by diet alone; juvenile diabetes mellitus that is uncomplicated and well regulated on insulin; acute complications of diabetes mellitus (metabolic acidosis, coma, infection, gangrene); during or immediately after surgery where insulin is indispensable; severe hepatic disease; renal disease with uremia; cardiovascular collapse (shock); after disease states associated with hypoxemia
*Warnings:* Use during pregnancy is to be avoided.
*Precautions:* 1. *Starvation Ketosis:* This must be differentiated from "insulin lack" ketosis and is characterized by ketonuria which, in spite of relatively normal blood and urine sugar, may result from excessive phenformin therapy, excessive insulin reduction, or insufficient carbohydrate intake. Adjust insulin dosage, lower phenformin dosage, or supply carbohydrates to alleviate this state. **Do not give insulin without first checking blood and urine sugar.**
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Usual dosage: one 50-mg. capsule with breakfast may be effective, or a second capsule may be given with the evening meal.

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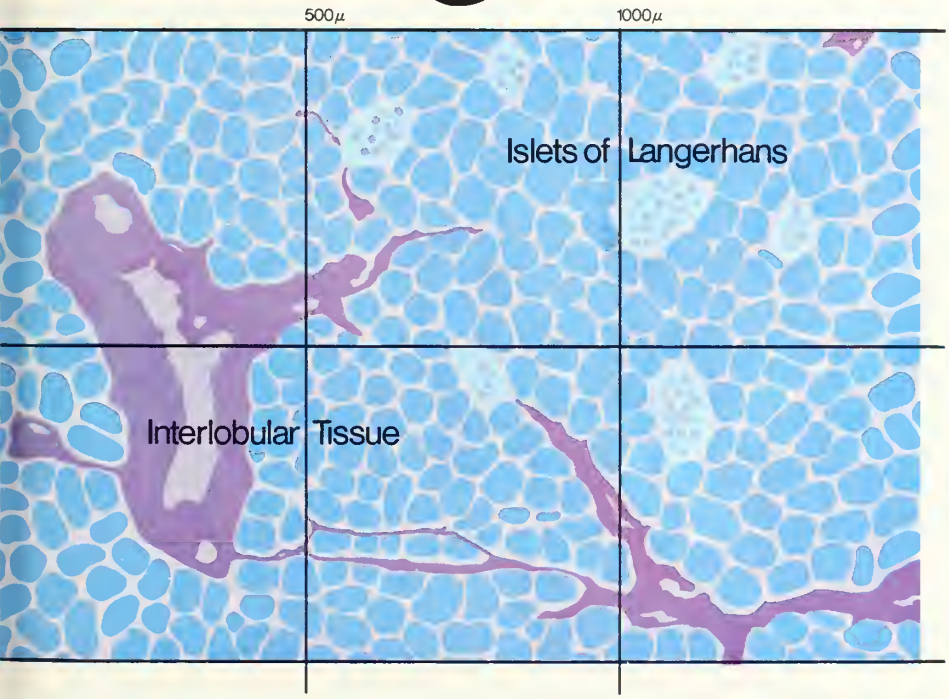
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n the presence of azotemia or in any clinical ituation that predisposes to sustained hypoten- ion that could lead to lactic acidosis. To lifferentiate lactic acidosis from ketoacidosis, eriodic determinations of ketones in the blood nd urine should be made in diabetics previously tabilized on phenformin, or phenformin and nsulin, who have become unstable. If electrolyte mbalance is suspected, periodic determinations hould also be made of electrolytes, pH, and the actate-pyruvate ratio. The drug should be with- lrawn and insulin, when required, and other orrective measures instituted immediately upon the appearance of any metabolic acidosis.
3. *Hypoglycemia:* Although hypoglycemic reactions are rare when phenformin is used alone, every precaution should be observed during the dosage adjustment period particularly when insulin or a sulfonylurea has been given in combination with phenformin.
*Adverse Reactions:* Principally gastrointestinal; unpleasant metallic taste, continuing to anorexia, nausea and, less frequently, vomiting and diarrhea. Reduce dosage at first sign of these symptoms. In case of vomiting, the drug should be immediately withdrawn. Although rare, urticaria has been reported, as have gastrointestinal symptoms such as anorexia, nausea and vomiting following excessive alcohol intake.
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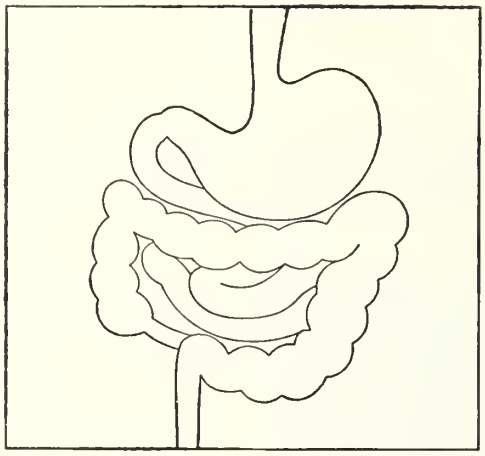
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Before using DBI-TD or any oral hypoglycemic, please read the prescribing information concerning dosage, warnings, contraindications, precautions and adverse reactions.

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The GI tract in spasm is commonly a "gas trap."

Sidonna® is formulated to release entrapped gas, as well as to provide antispasmodic/sedative effects.

In addition to the traditional combination of belladonna alkaloids and butabarbital (warning: may be habit forming.), Sidonna contains simethicone—a non-systemic defoaming agent that "lyses" gas bubbles on contact.

Sidonna has the ability to relieve GI spasm, pain **and gas** in the irritable bowel syndrome, spastic colon, pylorospasm, gastroenteritis, gastritis, nausea, nervous indigestion, or gastric and duodenal ulcer.

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Each scored tablet contains: Specially activated simethicone 25 mg.; hyoscyamine sulfate 0.1037 mg., atropine sulfate 0.0194 mg., hyoscine hydrobromide 0.0065 mg. (equivalent to belladonna alkaloids [as bases] 0.1049 mg.) and butabarbital sodium N.F. 16 mg. (Warning: May be habit forming.)

# can do more

**Contraindications:** Anticholinergics should not be used in patients with glaucoma, known prostatic hypertrophy, or pyloric obstruction. Urinary retention may indicate the presence of prostatic hypertrophy. If it occurs, the dose should be reduced or the drug withdrawn. Also contraindicated in patients with known hypersensitivity to one of the components.
**Side Effects:** Dryness of the mouth, blurred vision, dysuria, skin rash, constipation or drowsiness may occur.

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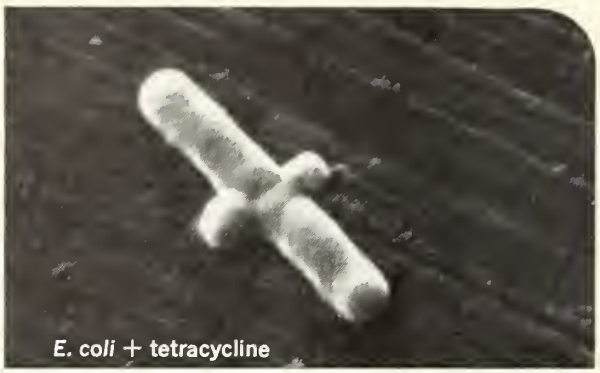
# Encounter under the Scanning Electron Microscope



## SEM reveals changes in *E. coli* exposed to antibacterial agents

The Scanning Electron Microscope (SEM) is the only instrument which gives 3-dimensional views on a microscopic level. This permits the surface morphology of microorganisms to be observed in detailed perspective. Changes in surface morphology of *E. coli* exposed to various antimicrobial agents are seen on the following page. An SEM photomicrograph of normal control *E. coli* appears above.










# Different modes of antibacterial action — Similar changes in morphology

As part of a series of experiments,[1-3] strains of *E. coli* proven susceptible to each antibacterial agent were exposed to 1 MIC of the respective antibacterials for a three-hour period. Included were cell-wall-active drugs, ampicillin and cephalothin; a drug interfering with intracellular protein synthesis, tetracycline; and a chemical agent which acts by interference with para-aminobenzoic acid, sulfamethoxazole.

As seen above, elongation of the bacilli, mid-cell defects and spheroplast-like forms may be appreciated with the SEM technique. These changes in bacterial morphology were similar... regardless of the antibacterial agent used and irrespective of its mechanism of action.

**"At present, the significance of these observations in clinical infection must be considered with caution, but it is hoped that these data will stimulate a reevaluation of present concepts of the nature and role of morphological variants of bacteria exposed to a variety of antibacterial factors."[2]**

**References:**

1. Klainer, A. S.; Fass, R. J., and Perkins, R. L.: Scientific Exhibit presented at the 25th American Medical Association Clinical Convention, New Orleans, La., Nov. 28-Dec. 1, 1971.
2. Klainer, A. S., and Perkins, R. L.: *Antimicrob. Agents Chemother., 1*:164, 1972.
3. Klainer, A. S.: Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

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**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Effective in acute, recurrent or chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella-Aerobacter, Staphylococcus aureus, Proteus mirabilis,* and, less frequently, *Proteus vulgaris*) and in the absence of obstructive uropathy or foreign bodies.

***Note:* Since *in vitro* sulfonamide sensitivity tests are not always reliable, carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response. Add aminobenzoic acid to culture media of patients receiving sulfonamides. The increasing frequency of resistant organisms is a limitation of usefulness of antibacterial agents, including sulfonamides, especially in chronic or recurrent urinary tract infections.**

Blood levels should be measured in patients receiving sulfonamides for serious infections, since there may be wide variations with identical doses; 20 mg/100 ml should be the maximum total sulfonamide level, as adverse reactions occur more frequently ab this level.

**Contraindications:** Sulfonamide hypersensitivity; infants l than 2 months of age (except adjunctively with pyrimethamine congenital toxoplasmosis); pregnancy at term and during nurs period.

**Warnings:** Safe use in pregnancy has not been established, a teratogenicity potential has not been thoroughly investigated. S fonamides will not eradicate or prevent sequelae to group A strep coccal infections, *i.e.,* rheumatic fever, glomerulonephritis. Dea from hypersensitivity reactions, agranulocytosis, aplastic anei and other blood dyscrasias have been reported; early clinical si such as sore throat, fever, pallor, purpura or jaundice may indic serious blood disorders. Complete blood counts and urinalysis v careful microscopic examination are recommended frequently c ing sulfonamide therapy. Clinical data are insufficient on prolon or recurrent therapy in chronic renal diseases of children un 6 years.

# Encounter in Clinical Practice

## Control of primary bacterial offenders

Antibacterial Gantanol® (sulfamethoxazole) controls susceptible strains of *E. coli* and other gram-negative and gram-positive organisms often implicated in acute nonobstructed pyelonephritis and cystitis.

## Prompt antibacterial blood and urine levels

In from 2 to 3 hours after the initial 2-Gm adult dose, antibacterial levels are present in both the blood and urine.

## B.I.D./T.I.D. dosage for around-the-clock coverage

Subsequent 1-Gm doses provide up to 12 hours of antibacterial coverage. More severe u.t.i. may require a q. 8 h. dosage regimen. Either schedule provides coverage during the waking and sleeping hours—especially important during hours of sleep when normal urinary retention tends to favor bacterial proliferation.

## Also effective in nonobstructed chronic and recurrent u.t.i.

It is not uncommon for the elderly and the debilitated to develop chronic and/or recurrent nonobstructed urinary tract infections such as pyelonephritis and cystitis. Such cases often respond satisfactorily to Gantanol. The increasing frequency of resistant organisms is a limitation of usefulness of antibacterial agents, including sulfonamides, especially in chronic or recurrent u.t.i.

## Your Option: Tablets or Suspension

Either dosage form—the Tablets or the pleasant-tasting, cherry-flavored Suspension—can provide the dependable antibacterial activity necessary to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement may usually be expected in 24 to 48 hours. The usual precautions with sulfonamide therapy should be observed, including adequate fluid intake. Gantanol (sulfamethoxazole) is generally well tolerated with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended.

## In nonobstructed cystitis and pyelonephritis due to susceptible organisms

# Gantanol®
# (sulfamethoxazole)
# Basic Therapy

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**Precautions:** Use with caution in patients with impaired renal hepatic function, severe allergy, bronchial asthma and in glucose-phosphate dehydrogenase-deficient individuals. In the latter, dose-ated hemolysis may occur. Maintain adequate fluid intake to event crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias:* agranulocytosis, aplastic emia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, poprothrombinemia and methemoglobinemia; *allergic reactions:* thema multiforme (Stevens-Johnson syndrome), skin eruptions, dermal necrolysis, urticaria, serum sickness, pruritus, exfoliative rmatitis, anaphylactoid reactions, periorbital edema, conjunctival d scleral injection, photosensitization, arthralgia and allergic myo-ditis; *gastrointestinal reactions:* nausea, emesis, abdominal pains, patitis, diarrhea, anorexia, pancreatitis and stomatitis; *C.N.S. re-tions:* headache, peripheral neuritis, mental depression, convul-ns, ataxia, hallucinations, tinnitus, vertigo and insomnia; and scellaneous reactions: drug fever, chills, toxic nephrosis with oli-ria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide and thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

**Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age,** except adjunctively with pyrimethamine in congenital toxoplasmosis. Usual dosage is as follows:

*Adults*—2 Gm (4 tabs or teasp.) initially, then 1 Gm (2 tabs or teasp.) *b.i.d.* or *t.i.d.* depending on severity of infection. *Children*—0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, followed by 0.25 Gm/20 lbs (½ tab or teasp.) *b.i.d.* Maximum dose for children should not exceed 75 mg/kg/24 hrs.

**Supplied:** Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.

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be a little more involved than just that.

Dr. Kenneth Aycock requests that the SCMA endorse a program to immunize citizens of South Carolina against Polio. Dr. Kilgore moved that SCMA endorse such a program. Carried.

Dr. Booker announced that three students from the Medical University would attend the entire convention and that about 20 were coming Tuesday for the day.

Dr. Thomas Parker moved that Council recommend to the House of Delegates that a student, G. B. Jebaily, who desires to address the House be permitted to do so. Carried.

Dr. Booker stated that he had taken the liberty of appointing himself to act as the liaison member on the S. C. Medical Education Consortium.

Dr. Booker stated that SCMA this year had received a gift of $200 from A. H. Robins, to be used in furthering such professional or educational programs as Council feels will be of the greatest benefit.

Dr. Booker announced that the AMA-ERF grant check to the Medical University of S. C. was in the amount of $12,381.

Dr Booker explained that he had a telephone request from Washington to appoint a delegate to attend a meeting in New Orleans of the National Disaster Committee. He appointed Dr. Don A. Richardson, thinking that his expenses would be paid by the federal government; however, they were not. Dr. Booker suggested that SCMA consider reimbursing Dr. Richardson for attending this meeting. Dr. Johnston moved that SCMA reimburse Dr. Richardson. Dr. Kilgore seconded. Motion voted on and carried.

Mr. Meadors read a letter from Dr. McIver asking that the matter of the American Association of Medical Assistants, Inc., be approved by SCMA. In discussing the matter, Dr. McIver stated that the members of this association may not join any National organization which is not approved by SCMA or may not join any state organization which is not approved by the appropriate county society. Dr. McIver moved that Council approve this Association. Dr. Johnston seconded. Motion voted on and carried.

Mr. Pugh explained the plans for renting automobiles presented by the Joe King Company, Spartanburg, and the Jim Moore Oldsmobile Company, Columbia. Dr. Stone moved that Council endorse both plans and notify members of its endorsement. Dr Gilland seconded. Motion voted on and carried.

May 15, 1972

Dr. Hawk read a proposed Resolution to amend the By-Laws to grant special or junior memberships to interns and residents. After discussion, Council approved Dr. Hawk's proposed resolution and asked him to prepare same in final form for presentation to the House of Delegates.

Dr. Hope announced that he will bring to the House of Delegates as information a proposal from the Chesterfield County Society that every practicing physician take one-week post graduate course annually.

Dr. Stone moved that Dr. McIver's proposed Resolution regarding the Hospital Franchising Act be tabled pending more in-depth study, at least until the next meeting of Council. Carried.

May 17, 1972.

Dr. Edward Parker moved that the next Annual Convention of the South Carolina Medical Association be held on the weekend preceding Mother's Day weekend or the weekend after Mother's Day since Mr. Meadors reports that the Center has been reserved for Mother's Day weekend. Dr. Stokes seconded. Motion voted on and carried.

In connection with the Physician's Placement Bureau, Mr. Pugh reported that he was hopeful of getting maybe 125 physicians into South Carolina this year, and noted that he was working closely with the hospitals in this matter. It was the opinion of Council that he should not work with the hospitals but rather with the officers of the local medical societies.

Dr. Thomas Parker moved that the following resolution be adopted and presented to the House of Delegates with the approval of Council:

Resolved,

That the AMA establish the editorial policy, that when an article refers to a drug by its generic name, the generic name be accompanied by the trade name or names of the drug employed by the author or authors, thus assisting physicians in assessing the results reported, and emphasizing existing AMA policy that prescription by trade name is desirable for the maintenance of professional freedom. Carried.

Dr. Tanner moved that Dr. Waring serve as Editor of the Journal until such time as another Editor is elected and that the appropriate Board furnish Council with nominations for an Editor at the June 28th meeting.

Dr. McIver reported on the closed drug formulary under Title XIX and proposed the following resolution:

Resolved, That the SCMA opposes the use of a closed drug formulary and recommends to Dr. Archie Ellis, Commissioner of the State Department of Social Services, that he void the present closed drug formulary,thus allowing the practicing physician to prescribe in his opinion the best drug for his patient's needs; and, therefore, be it further

Resilved, That this open formulary be controlled by placing a fixed dollar limit per month per recipient and accounted for by the pharmacist of the month; and be it finally

Resolved, That this open formulary be controlled by John C. West, Governor of the State of South Carolina, Dr. Archie Ellis, Commissioner of the State Department of Social Services, Dr William M. McCord, Chairman of the Advisory Committee to Title XIX, and to Dr. Hunter Rentz, Chairman of the Drug Evaluation and Selection Committee.

Dr. McIver was given a standing vote of thanks

for his diligent efforts in behalf of Council for the past year.

May 17, 1972

Dr. Waitus O. Tanner was elected chairman of Council; Dr. John P. Gilland, vice president and Dr. Euta Colvin was named as Clerk.

Dr. Tucker Weston criticized the treatment Dr. William Cooper received at the Jade Tree. Dr Kilgore moved that an official letter from Council expressing their concern over the treatment received by visiting dignitaries be sent to the Chamber of Commerce. Dr. Holmes seconded. Motion voted on and carried.

Dr. Smoak moved that a committee be appointed by Council to have the responsibility of seeing that an invited guest is courteously met and taken care of during the visit to SCMA's activities. Dr. Johnston seconded. Motion voted on and carried. It was suggested that the Speaker and the President be members of this committee.

D. Strother Pope, M.D.
Secretary


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**Dr. Daniel W. Davis** of Columbia has been elected president of the South Carolina Vascular Surgical Society. **Dr. Harry Metropol,** also of Columbia, was elected vice president and **Dr. William Houck** of Florence was elected secretary-treasurer. **Dr. R. Randolph Bradham** of Charleston was elected president of the S. C. Surgical Society at its annual meeting at Sea Island, Georgia. Also selected were **Drs. Henry Frierson** of Orangeburg as vice president and **J. D. Ashmore** of Greenville as secretary-treasurer.

The Trident Forum for the Handicapped presented the Florence and Frank Durkee award to **Dr. Vince Moseley** at its annual meeting. The award is given annually to the person who has made the most significant contribution to Charleston area handicapped. **Dr. Moseley** also serves as vice chairman of the Forum and **Dr. William Weston, III** serves as program secretary. **Dr. Lewis Knoepp** of Spartanburg has been selected as physician-adviser to the South Carolina Society of the American Association of Medical Assistants.

**Dr. A. R. Nicholson,** long-time physician and promoter for a hospital in Edgefield County, is being honored by the establishment of a special memorial fund which will be applied toward the cost of furniture and equipment in the obstetrical department of the 40-bed hospital. A portrait of the late **Dr. George Blalock** has been unveiled at Bailey Memorial Hospital in Clinton. Dr. Blalock spent his entire professional career in Clinton.

Among those named as Fellows of the American College of Physicians were **Dr. Robert Kiger** of Columbia, **Dr. Charles Banov** of Charleston and **Dr. Allen H. Johnson** of Hemingway. Elected to active membership in the American Academy of Family Physicians were **Drs. Guy Smith Blakely** of Woodruff, **W. Carl Walsh** of Easley, **Louis D. Rhodes** of Estill, **James S. McIlwain, Jr.** of Denmark, and **Samuel J. Corbin, Jr.** of Sumter.

Darlington County Health Director **Dr. Claude Murray** has moved to Orangeburg, where he will be health director for Orangeburg County and will eventually become district director there. Dr. Murray has been in Darlington County since 1969. **Dr. John Marquis** has joined the medical staff of **Drs. M. J. Coleman, Charles Aimar and James D. McInnis** as a practicing physician in Darlington. Dr. Marquis is a graduate of the University of Pennsylvania School of Medicine and has practiced medicine for several years in Charleston, West Virginia.

**Dr. Saied Ameen** has joined **Dr. Jack Fakoury** in the practice of radiology at the Kershaw County Memorial Hospital. Dr. Ameen practiced in Great Falls, S. C., before going into a three-year residency at the Medical University of South Carolina, where he was a teaching fellow and chief resident radiologist. **Dr. Michael K. Welborn** has returned to Easley after serving in the U. S. Army in Vietnam and has resumed the practice of medicine with **Drs. E. Gibson Shealy** and **George W. Smith. Dr. Mack Edward Beckham** has announced the opening of a practice in pediatrics at 1814 Bull Street in Columbia. Dr. Beckham is a graduate of Tulane University School of Medicine, interned at Columbia Hospital, and after serving in the Air Force, completed his residency in pediatrics in 1969 at Charity Hospital in New Orleans. **Dr. Grant W. Patton, Jr.** has announced the opening of an office for the practice of Infertility and

Obstetrics and Gynecology at 126½ Rutledge Avenue in Charleston. **Dr. Edwin K. Fennell,** orthopedic surgeon, has relocated his office to 1701 St. Julian Place in Columbia. **Drs. C. T. Cook** and **T. S. Whittle** have announced the closing of their practice at 237 Lexington Medical Mall, West Columbia.

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The Journal of the South Carolina Medical Association

## 50 YEARS AGO

**August, 1922**

The resignation of Dr. Kenneth M. Lynch as professor of pathology at the Medical College of South Carolina was noted. The State Board of Health reported 117 deaths from diphtheria, 319 deaths from typhoid fever, and 1270 deaths from tuberculosis during the previous year.


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- ☐ **belladonna alkaloids—for the hyperactive bowel**
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**Contraindications:** Hypersensitivity to barbiturates or belladonna alkaloids, glaucoma, advanced renal or hepatic disease.

**Precautions:** Administer with caution to patients with incipient glaucoma, bladder neck obstruction or urinary bladder atony. Prolonged use of barbiturates may be habit-forming.

**Side effects:** Blurred vision, dry mouth, dysuria, and other atropine-like side effects may occur at high doses, but are only rarely noted at recommended dosages.

**Dosage:** *Adults:* One or two tablets three or four times daily. Dosage can be adjusted depending on diagnosis and severity of symptoms.

*Children 2 to 12 years:* One-half or one tablet three or four times daily. Tablets may be chewed or swallowed with liquids.

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(from the Greek **kinetikos**,
to move,
and the Latin **sedatus**,
to calm)

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This southwestern desert lizard seeks
shelter in crevices of rocks.
When attempts are made to probe him
from his niche, he gulps air
until his torso is distended up to
sixty per cent over its normal size...
thus wedging himself tightly
in place and preventing capture.

In *acute, recurrent or chronic* nonobstructed cystitis

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## sulfisoxazole/Roche®

**3.**

**High solubility at average urinary pH**
Gantrisin's unusual solubility is the main reason for its relatively low toxicity. In both free and acetylated forms, it is highly soluble at urinary pH values of 5.5 to 6.5, so there is no need for prophylactic alkali therapy.

**4.**

**Rapid absorption**
Gantrisin reaches its sites of action quickly. Measurable levels of the drug have been found in blood and urine within 60 minutes; in 2 to 3 hours, therapeutic levels usually have been reached.

**5.**

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Gantrisin's rapid excretion rate is another reason why it is generally well tolerated. Over 50% of a single oral dose is excreted in 8 hours, over 90% in 24 to 48 hours, so there is little risk of hematuria or crystalluria, and anuria is rare. As with all sulfonamides, adequate fluid intake must be maintained. Complete blood counts and urinalyses, with careful microscopic examination, should be performed frequently.

**For nonobstructed cystitis due to *E. coli* and other susceptible organisms**

**begin with**

**Gantrisin®**
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**Usual adult dosage:**
4 to 8 tablets *stat*
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**antrisin® (sulfisoxazole) Roche® provides our patients with many important advantages:**

high urinary levels
generally good tolerance
high solubility at average urinary pH
rapid absorption
rapid renal clearance
high plasma concentrations
economy (average cost of therapy: less than 6½¢ per tablet)

**fore prescribing, please consult complete product information, a summary of which follows:**

**lications:** Acute, recurrent or chronic urinary tract infections (primarily cystitis, pyelitis, pyelonephritis) due susceptible organisms (usually *E. coli, Klebsiella-robacter, Staphylococcus aureus, Proteus mirabilis,* d less frequently, *Proteus vulgaris*) in the absence of structive uropathy or foreign bodies.

**PORTANT NOTE:** ***In vitro*** **sulfonamide sensitivity tests not always reliable. The test must be carefully coordi-ed with bacteriologic and clinical response. When the ient is already taking sulfonamides, follow-up cultures uld have aminobenzoic acid added to the culture media.**

**rently, the increasing frequency of resistant organisms a limitation of the usefulness of antibacterial agents in-ding the sulfonamides, especially in the treatment of onic and recurrent urinary tract infections.**

e sulfonamide blood levels should be measured in pa-nts receiving sulfonamides for serious infections since re may be wide variations with identical doses; 20 mg/ ml should be maximum total sulfonamide level, as verse reactions occur more frequently above this level.

**ntraindications:** Hypersensitivity to sulfonamides, in-ts less than 2 months of age (except adjunctively with imethamine in congenital toxoplasmosis), pregnancy erm, and during the nursing period.

**rnings:** Safety of sulfonamides in *pregnancy* has not en established. Sulfonamides will not eradicate group treptococci. Deaths associated with sulfonamide ad-nistration have been reported from hypersensitivity ctions, agranulocytosis, aplastic anemia and other od dyscrasias. Clinical signs such as sore throat, fever, lor, purpura or jaundice may be early indications of ious blood disorders. Complete blood counts and nalyses with careful microscopic examination should performed frequently during sulfonamide therapy.

**cautions:** Use with caution when impaired renal or patic function, severe allergy or bronchial asthma is sent. In glucose-6-phosphate dehydrogenase-deficient ividuals, hemolysis (frequently a dose-related reac-n) may occur. Maintain adequate fluid intake to pre-t crystalluria and stone formation.

**erse Reactions:** *Blood dyscrasias:* Agranulocytosis, astic anemia, thrombocytopenia, leukopenia, hemo-c anemia, purpura, hypoprothrombinemia, methemo-binemia. *Allergic reactions:* Erythema multiforme (Ste-s-Johnson syndrome), generalized skin eruptions, dermal necrolysis, urticaria, serum sickness, pruritus, bliative dermatitis, anaphylactoid reactions, periorbi-edema, conjunctival and scleral injection, photosensi-tion, arthralgia, allergic myocarditis. *Gastrointestinal ctions:* Nausea, emesis, abdominal pains, hepatitis, rrhea, anorexia, pancreatitis, stomatitis. *C.N.S. reac-ns:* Headache, peripheral neuritis, mental depression, vulsions, ataxia, hallucinations, tinnitus, vertigo, in-nnia. *Miscellaneous reactions:* Drug fever, chills, toxic hrosis with oliguria and anuria. Periarteritis nodosa L.E. phenomenon have occurred with sulfonamide rapy. Sulfonamides bear certain chemical similarities some goitrogens, diuretics and oral hypoglycemic nts. Goiter production, diuresis and hypoglycemia e occurred rarely in patients receiving sulfonamides. ss-sensitivity may exist with these agents.

**plied:** Tablets containing 0.5 Gm sulfisoxazole.

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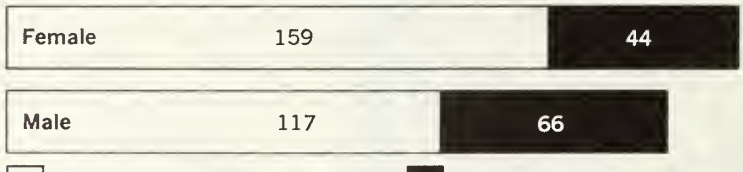
# What it means to live and work in Tipton County, Tennessee

## Persons who are white and over 40 have one chance in four of having solar keratoses... which may be premalignant

An epidemiologic study* conducted in Tipton County, Tennessee, revealed that 28.5% of white persons over 40 had solar keratoses; most had multiple lesions. Cluster sampling projected an estimated prevalence of 32.5% for white males and 19.5% for white females.

Though this is an unusually high percentage of affected persons, these lesions can occur in any white population, wherever people work or play out of doors.

**Prevalence of solar keratoses in white persons over 40 in Tipton County, Tennessee**




*Data on file, Hoffmann-La Roche Inc., Nutley, New Jersey.



## Solar, actinic, senile keratoses

Called by many names, the typical lesion is flat or slightly elevated, brownish or reddish in color, papular, dry, adherent, rough, sharply defined; usually multiple lesions, chiefly on exposed portions of the skin.

## Sequence/selectivity of response

Erythema in areas of lesions may begin after several days of therapy; height of reaction (only in affected areas)* usually occurs within two weeks, declining after discontinuation of therapy. Since this response is so predictable, lesions that do not respond should be biopsied to rule out the presence of a frank neoplasm.

## Cosmetic results

Cosmetic results are highly favorable. Incidence of scarring is low—important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.

## 5% cream–a Roche exclusive

Only Roche formulates the 5% cream... high in patient acceptability... high in clinical efficacy, especially for lesions of hands and forearms... economical.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Multiple actinic or solar keratoses.

**Contraindications:** Patients with known hypersensitivity to any of its components.

**Warnings:** If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

**Precautions:** If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

**Adverse Reactions:** Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

**Dosage and Administration:** Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

**How Supplied:** Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

## an alternative to conventional therapy

# Efudex®

# (fluorouracil)

## cream/solution

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and utilization programs be designed in order to expand participation by nurses in primary health care roles.

9. That innovative systems of public information be designed, especially through use of trained health educators on a subregional basis, in order to minimize the impact of public ignorance regarding both available health services and personal preventive health measures.

**C. Primary Health Care Delivery**

1. That a mechanism be established for continuing cooperative regional efforts to study and modify where possible the following deterrants to improvement in primary health care delivery:
   a. The obstacles that discourage entering and remaining active in primary community practice.
   b. The obstacles that limit primary care roles for nurses and other paramedical personnel.
   c. The obstacles to ambulatory care imposed by third party payment.
2. That study regarding the advantages and methods of use of the Problem Oriented Medical Record be widely encouraged among physicians and other concerned with primary health care delivery in South Carolina.
3. That a cooperative statewide action plan for comprehensive emergency medical services be further elaborated, and that components of this plan be supported through professional education programs and demonstration projects.
4. That infant mortality be reduced in minority populations, especially through development of prenatal care services and nurse midwifery programs.
5. That the South Carolina Regional Medical Program be prepared to work in cooperation with appropriate professional societies who express an interest in exploring alternative care delivery systems and that the SCRMP assist appropriate professional societies in programs assuring the quality of health care.

**D. Regional Resources for Specialized Care and Support Services**

1. That shared bioengineering service programs be developed in order to provide improved safety, reliability and efficiency in hospitals, clinics and practitioners' offices.
2. That regional efforts be pursued to develop a standard, simplified patient records systems in order to reduce cost and time investment on the part of institutions and practitioners. It is extremely important that such a system satisfy basic JCAH requirements and be adaptable on a statewide basis.
3. That studies be carried out on the development of facilities or programs for economical domiciliary care for the incapacitated, particularly the elderly.
4. That those specialized services that are appropriate, needed and feasible, in addition to those existing for end-stage kidney disease, chronic respiratory disease, and diabetes, be determined and optimized through linking of facilities to achieve the maximal cooperation among hospitals and institutions.

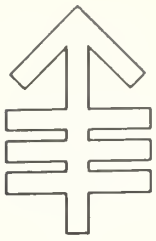
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**Announcement of Postgraduate Course**

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# CANCER TOPICS



## RADIOTHERAPY — AN OVERVIEW

by

Keene M. Wallace, M. D.*

Seventy-five years ago in Wurzburg, Germany, Wilhelm Conrad Roentgen discovered a "new kind of light" to which he applied the name "X-rays". In 1886 an editorial in the Journal of the American Medical Association suggested that the new ray might have therapeutic potentiality.

Almost simultaneously Henri Becquerel discovered that rays emitted by uranium compounds also darkened photographic plates in a manner similar to x-rays. The elements polonium and subsequently radium were discovered by Marie and Pierre Curie in 1898.

During the 1920's Baclesse introduced the concept of dose fractionation and is considered the father of modern therapy.

In the decade between 1930-40, advances were made in x-ray and gamma ray dosimetry. There was, however, no way of improving dose distribution beyond a certain point because of the limitation set by the x-ray apparatus in use at that time. The principal limitation on dose was the damage to the skin and underlying structures in attempting to deliver curative tumor doses.

In 1932 E. O. Lawrence invented the cyclotron and constructed a supervoltage x-ray generator. As early as 1939, Lawrence and Stone used a neutron beam from the cyclotron to treat cancer patients. Van de Grall produced a 12 MEV electrostatic generator.

Of major importance to radiation therapy during the 40's and 50's was the development of nuclear reactors which made possible quantity production of high specific activity cobalt sources. This led to the development of the cobalt$^{60}$ therapy unit which became the workhorse of the radiation therapy departments.

The choice of a basic treatment unit today for a therapy center is usually between the cobalt$^{60}$ and a 4 to 6 MEV linear accelerator. For cobalt the first advantage is the relatively low cost of the initial installation. This may vary from approximately $70,000 to slightly over $100,000. Secondly, is the low maintenance; there is no complex electronic circuitry requiring the presence of physicist or electronics engineer. Dosimetry is well established and is simplified by the fact that usually only one measurement is needed to actually determine the output. Another factor is the constant quality of the radiation produced. Treatment conditions are readily reproducible. The radiation is on a par with 3 to 4 MEV x-rays.

The principal disadvantage of cobalt$^{60}$ is the necessity for acquisition of a replacement source after several years of use. This cost varies between $20,000 and $40,000 depending upon the source size of the specific activity of the cobalt.

More recently the linear accelerator has come into its own as a basic treatment unit. The cost of the 4 to 6 MEV linear accelerator unit varies from approximately $100,000 to $175,000 depending upon the capabilities and the accessories desired. Cost over a period of years will be comparable to a cobalt unit

*Professor of Radiology; Head, Division of Radiation Therapy, Medical University of South Carolina



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First came CANDEPTIN (candicidin) Tablets for intravaginal use. Then CANDEPTIN Ointment to treat labial involvement and for intravaginal use. Now unique **CANDEPTIN VAGELETTES**—candicidin ointment in soft gelatin capsules—extend the range of CANDEPTIN therapy to even your pregnant and virginal patients (you merely cut off the narrow tip and extrude the contents through the intact hymen).

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CANDEPTIN brings your patients prompt relief of itching, burning and discharge—usually within 72 hours.[1] A single, 14-day course of treatment is usually all that's needed for a complete cure.[2,3,4]

Significantly more potent *in vitro* than nystatin.[5] CANDEPTIN Tablets and Ointment have shown clinical cure rates of 90% and higher in both pregnant and non-pregnant patients.[1,4,6] And in recent studies of **CANDEPTIN VAGELETTES** Vaginal Capsules involving both pregnant and non-pregnant patients, a 100% culture-confirmed cure rate was achieved with a single 14-day course of therapy.[2,3]

*Only* CANDEPTIN gives you a dosage form for every therapeutic need, plus *eight years' clinical proof* of potency. Consider CANDEPTIN for your next vaginal moniliasis patient.

# CANDEPTIN®
# (candicidin)

**Description:** CANDEPTIN (candicidin) Vaginal Ointment contains a dispersion of candicidin powder equivalent to 0.6 mg. per gm. or 0.06% Candicidin activity in U.S.P. petrolatum. 3 mg. of Candicidin is contained in 5 gm. of ointment or one applicatorful. CANDEPTIN Vaginal Tablets contain Candicidin powder equivalent to 3 mg. (0.3%) Candicidin activity dispersed in starch, lactose and magnesium stearate. CANDEPTIN VAGELETTES Vaginal Capsules contain 3 mg. of Candicidin activity dispersed in 5 gm. U.S.P. petrolatum.

**Action:** CANDEPTIN Vaginal Ointment, Vaginal Tablets, and VAGELETTES Vaginal Capsules possess anti-monilial activity.

**Indications:** Vaginitis due to Candida albicans and other Candida species.

**Contraindications:** Contraindicated for patients known to be sensitive to any of its components. During pregnancy manual tablet or VAGELETTES Capsule insertion may be preferred since the use of the ointment applicator or tablet inserter may be contraindicated.

**Caution:** During treatment it is recommended that the patient refrain from sexual intercourse or the husband wear a condom to avoid re-infection.

**Adverse Reaction:** Clinical reports of sensitization or temporary irritation with CANDEPTIN Vaginal Ointment, Vaginal Tablets or VAGELETTES Vaginal Capsules have been extremely rare.

**Dosage:** One vaginal applicatorful of CANDEPTIN Ointment or one Vaginal Tablet or one VAGELETTES Vaginal Capsule is inserted high in the vagina twice a day, in the morning and at bedtime, for 14 days. Treatment may be repeated if symptoms persist or reappear.

**Available Dosage Forms:** CANDEPTIN Vaginal Ointment is supplied in 75 gm. tubes with applicator (14-day regimen requires 2 tubes). CANDEPTIN Vaginal Tablets are packaged in boxes of 28, in foil with inserter—enough for a full course of treatment. CANDEPTIN VAGELETTES Vaginal Capsules are packaged in boxes of 14 (14-day regimen requires 2 boxes.)

Store under refrigeration to insure full potency.

Federal law prohibits dispensing without prescription.

**References:** **1.** Olsen, J. R.: Journal-Lancet 287 (July) 1965. **2.** Giorlando, S.W.: Ob/Gyn Dig. *13*: 32 (Sept.) 1971. **3.** Decker, J.: Case Reports on File, Medical Department, Julius Schmid. **4.** Giorlando, S.W., Torres, J.F., and Muscillo, G.: Am. J. Obst. & Gynec. 370 (Oct. 1) 1964. **5.** Lechevalier, H.: Antibiotics Annual 1959-1960. New York, Antibiotica Inc., 1960. pp. 614-618. **6.** Friedel, J.: Maryland M.J., *15*: 36 (Feb.) 1966.

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An orally active hypoglycemic agent principally indicated in relatively mild, adult, maturity-onset, non-ketotic diabetes; also, as a supplement to insulin therapy in selected diabetic patients, it may effect a stabilization of labile diabetes and reduce insulin requirements. Certain patients intolerant to chlorpropamide therapy at usual therapeutic doses have subsequently been successfully managed with Orinase (tolbutamide).

Use in mild asymptomatic diabetic patients with abnormal glucose tolerance tests not responding to diet therapy may result in improvement of the glucose tolerance test.

Use in conjunction with phenformin is indicated when optimal control is not obtained with Orinase or phenformin alone.

**Contraindications:** Orinase alone is not effective in juvenile or growth-onset diabetes nor in unstable brittle diabetes where insulin therapy is required.

Orinase should not be used: when diabetes is complicated by acidosis, ketosis, or coma, or when a history of repeated bouts of acidosis or coma is obtained; in the presence of other acute complications such as fever, severe trauma, or infections; and in patients with severe renal insufficiency. Insulin is indicated in these circumstances.

**Pregnancy Warning:** The safety and usefulness of Orinase during pregnancy has not been established either from the standpoint of the mother or the fetus. Animal studies have demonstrated feticidal and teratogenic effects of doses of 1,000-2,500 mg./kg./day, but application to human subjects unknown. Therefore, Orinase is not recommended for the pregnant diabetic, and when administering Orinase to women of childbearing age, these facts should be borne in mind.

**Precautions:** Diagnostic and therapeutic measures necessa for optimal control with insulin are also necessary with Orina The patient on Orinase must be fully instructed: about t nature of his disease; how to prevent and detect complicatio how to control his condition; not to neglect dietary restrictio develop a careless attitude or disregard instructions relative body weight, exercise, personal hygiene, and avoidance of fection; how to recognize and counteract impending hypog cemia; how and when to test for glycosuria and ketonuria; h to use insulin; and to report to the physician immediately if does not feel as well as usual.

Caution, very close observation, and careful adjustment dose are necessary when: insulin is withdrawn during the t period in order to avoid ketosis, acidosis, and coma; thiaz diuretics are administered which may result in aggravation diabetic state and increased tolbutamide requirement, tem rary loss of control, or even secondary failure; treating patie with impaired hepatic and/or renal function and debilitated, m nourished, or semistarved patients in order to avoid severe hy glycemia which may require corrective therapy over seve days; and treating patients with severe trauma, infection, or s gical procedures where temporary return to insulin or addit of insulin may be necessary. Response to tolbutamide is din ished in patients receiving therapy with beta blocking age

As some diabetics are not suitable candidates, it is esser that the physician familiarize himself with the indications, lir of application, and selection of patients for therapy.

Patients must be under continuous medical supervision, during the initial test period should communicate with the ph

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If you're around 40 or 45, you've ›bably had quite a bit of clinical experience ›th Orinase.

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## Orinase®

0.5 g. tablets

(tolbutamide, Upjohn)

n daily, and during the first month report at least once weekly physical examination and definitive evaluation. After a month, minations are recommended monthly or as indicated. Appearance of ketonuria, increase in glycosuria, unsatisfactory wering or persistent elevation of blood sugar, or failure to ain and hold clinical improvement indicate nonresponsiveness to Orinase (tolbutamide). Orinase does not obviate need for intaining standard diet regulation. Uncooperative patients uld be considered unsuitable for therapy. Prescriptions should refilled only on specific instruction of physician. In treating d asymptomatic diabetic patients with abnormal glucose erance, glucose tolerance tests should be obtained at three- six-month intervals. Orinase is not an oral insulin or a substite for insulin and must not be used as sole therapy in juvenile betes or in diabetes complicated by acidosis or coma where ulin is indispensable.

If phenformin is prescribed in combination with Orinase, appriate package literature should be consulted.

**Adverse Reactions:** Severe hypoglycemia, though uncommon, y occur and may mimic acute neurologic disorders such as ebral thrombosis. Certain factors such as hepatic and renal ease, malnutrition, advanced age, alcohol ingestion, and renal and pituitary insufficiency may predispose to hypoglycmia and certain drugs such as insulin, phenformin, sulfonides, oxyphenbutazone, salicylates, probenecid, monamine idase inhibitors, phenylbutazone, bishydroxycoumarin, and enyramidol may prolong or enhance the action of Orinase and rease risk of hypoglycemia. Orinase long-term therapy has en reported to cause reduction in RAI uptake without producing clinical hypothyroidism or thyroid enlargement and at high doses is mildly goitrogenic in animals. Photosensitivity reactions, disulfiram-like reactions after alcohol ingestion, and false-positive tests for urine albumin have been reported.

Although usually not serious, gastrointestinal disturbances (nausea, epigastric fullness, and heartburn) and headache appear to be dose related and frequently disappear with reduction of dose or administration with meals. Allergic skin reactions (pruritus, erythema, urticaria, and morbilliform or maculopapular eruptions) are transient, usually not serious, and frequently disappear with continued administration. Orinase should be discontinued if skin reactions persist. Recent reports indicate that long-term use of Orinase has no appreciable effect on body weight.

Orinase appears to be remarkably free from gross clinical toxicity: crystalluria or other renal abnormalities have not been observed; incidence of liver dysfunction is remarkably low and jaundice has been rare and cleared readily on discontinuation of drug (carcinoma of the pancreas or other biliary obstruction should be ruled out in persistent jaundice); leukopenia; agranulocytosis; thrombocytopenia; hemolytic anemia; aplastic anemia; pancytopenia; and hepatic porphyria and porphyria cutanea tarda have been reported.

**Supplied:** *0.5 g. Tablets*—bottles of 50, 200, 500, and 1,000, and cartons of 100 in foil strips.

**For additional product information, see your Upjohn representative or consult the package insert.**

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when one considers the replacement cost of cobalt sources.

Dosimetry is more complex and physics support is more necessary than with the cobalt unit. Some of the advantages of the 4 to 6 MEV accelerator over a cobalt unit is that of an increase in depth dose. At approximately 10 cm depth the increase in depth dose is 10 per cent. Another primary advantage is the availability of large flat fields and absence of penumbra effects due to the small focal spot size.

Perhaps the major disadvantage in cobalt and the 4 to 6 MEV accelerators is the relatively low cost of the units. This low cost has enabled many smaller community hospitals to install treatment units without adequate ancillary support and back-up by radiation physics and adequate consultative services. During the past several years there have been moves to solve at least partially some of the deficiencies in existing programs in smaller hospitals by providing these needed services through medical centers, medical schools, and larger community hospitals which have the basic resources available. As an example, in our own state, the Medical University of South Carolina in cooperation with the South Carolina Regional Medical Program has instituted some regional therapy programs. One such program has been the development of a statewide dosimetry network utilizing a small computer at the Medical University capable of treatment planning. With the use of telephone lines and facsimile devices, several or more community hospitals within the state can be supplied with adequate dosimetry data on all problem cases.

Outside the range of the 4 to 6 MEV accelerators and the cobalt units come the higher energy linear accelerators and betatrons. More and more large university hospitals and medical centers are acquiring these machines. It is felt that probably the primary advantage of these high energy accelerators and betatrons is the availability of high energy electrons. To be of any clinical value the electrons must be of energies of 4 MEV or more. Clinical information is available regarding the use of electrons in the 4 to 10 MEV range for treatment of malignancies which are near or on the skin surface. The true advantage of electrons from 10 to 30 MEV in energy is presently not as well accepted. The use of these electrons is therefore still in the investigational region.

The cyclotron and the very high energy linear accelerators are capable of producing heavy charged particle beams which include protons, alpha particles, deuterons and pi negative mesons. For over 10 years clinical experience has been gained and indicates advantages of greater penetration, little scatter, greater biological effect by ionization and independence of oxygen concentration. Because of the scarcity of equipment and the extremely high cost of operation, heavy particle therapy may be considered a modality of the future.

In addition to radiation physics and equipment technology, radiation biology is becoming more and more essential to the establishment of new protocols in radiation therapy.

Technological advances such as: selective radioactive labeling of cells; autoradiography; the knowledge of radiation sensitivity cells; and the effects of radiation on cells are producing means of evaluating treatment protocols. In fact, many individuals are questioning the daily treatment concepts and are beginning to utilize split dose therapy. However, the ramifications of this aspect of radiation biology to radiation therapy has not been fully explored.

Another way in which radiation biology has been applied to radiation therapy is through the discovering of the so-called "oxygen effect". It was found in the laboratory that oxygenated cells were more sensitive to radiation than anoxic cells; it was also known that solid tumors had an anoxic center. A direct application of this laboratory work has been the use of hyperbaric oxygen with the intent of improving tumor oxygenation and therefore tumor destruction by radiation resulting in improved survival. At the present time, this approach has not proven feasible in the clinical department possibly due to a lack of technology and knowledge of tumor vasculature.

Chemical compounds are also known to

either sensitize or protect cells from radiation effects. Some of these compounds are the DNA base analogues such as 5 BUDR, IUDR, which are radiation sensitizers. If tumor tissue could be selectively sensitized to radiation the so-called therapeutic ratio would be increased, allowing a curative dose to the tumor tissue without destroying the normal tissue. Although this approach again holds in theory, it has not proven feasible in practice. A means of selectively sensitizing tumor tissue has not been found, therefore, these radiation sensitizers also sensitize normal tissue and therefore destroy the objective of the drug usage.

Another group of drugs has been found to act as radioprotectants such as AET and sulphydryl groups. The problem with these drugs is that levels necessary to protect tissue against radiation are toxic to the individual. Therefore these have also not found use in radiation therapy.

In summary, it seems that the problem does not lie with the isolation of radiation biology from radiation therapy, but rather with the lack of technology necessary for the application of laboratory data to clinical areas. One answer to these problems may be the use of high energy proton beams, neutrons, and pi mesons, in radiation therapy as already discussed. These particles produce massive ionization in tissue at the cellular level causing massive damage to the cellular components. This massive damage is many times more effective than damage caused by electrons or x-rays in producing lethal effects and cellular destruction. Again from laboratory data it is known that these types of radiation overcome the oxygen effect, and may be an answer to the problem of selective radiosensitivity. Current investigations are also being carried out to determine the optimum fractionation scheme using these types of radiation.

Thus, today a more scientific and interdisciplinary approach is being taken in the development of new techniques in radiation therapy. The possibilities of increased survival rates and less early and late sequellae holds much promise for the cancer patient undergoing radiation therapy.

SOURCES


1. *Physical Foundations of Radiology,* Third Edition. Published December 1961. Reprinted with Corrections 1963, Glasser, Quimby, Taylor, Weatherwax, and Morgan. Hoeber Medical Division, Harper and Row, Publishers.
2. *Modern Trends in Radiation Therapy;* Deeley and Wood, New York Appleton-Century-Crofts; London, Buttersworth 1967.
3. *The Radiobiology of Human Cancer Radiotherapy;* J. Robert Andrews, M. D., D.Sc. (Med.), W. B. Saunders Company, Philadelphia, London, Toronto, 1968.


## Seminar on Nuclear Medicine

A one day seminar on the Latest Technics and Developments in Nuclear Medicine is being held September 22, 1972, at Self Memorial Hospital, Greenwood, S. C., under the direction of the Department of Radiology which has been actively engaged in a nuclear medicine program for the past 12 years. Several eminent physicians in this field from around the country will present lectures and practical demonstrations oriented in particular towards radiologists, internists and technologists engaged in this field. For interested general practitioners AAFP credits have been applied for and are expected. Registration fee is $15.00.

The above program is sponsored by the South East Chapter of the Society of Nuclear Medicine, Department of Radiology of Self Memorial Hospital, The South Carolina Regional Medical Program and the Division of Continuing Education of the Medical University of South Carolina.

For further information and registration, please contact:

Vince Moseley, M.D., Director
Division of Continuing Education
Medical University of South Carolina
80 Barre Street
Charleston, South Carolina 29401

# DEATHS

## DR. E. P. WEBBER

Dr. Edward Paul Webber, 60, chief of radiology services at the Veterans Administration Hospital, died June 2 at his home in Columbia. He was a graduate of Boston University School of Medicine and a veteran of World War II.

## DR. M. H. WYMAN

Dr. Marion Hay Wyman, 85, died June 19 in the Veterans Hospital in Columbia. Dr. Wyman graduated from the Medical University in 1910 and interned in Roper Hospital and Bellevue in New York. He began practice in Aiken, did further study at Johns Hopkins and then practiced in Columbia until his retirement in 1969. He was a member of the American Medical Society, the American Urological Society and the Columbia Medical Society.

## DR. B. J. WORKMAN

Dr. Belton James Workman, 78, prominent Woodruff surgeon and businessman, died June 21 after a long illness. Dr. Workman was a graduate of the Medical University and had practiced medicine in the Woodruff area for 52 years. He had served as a trustee of Furman University for 25 years, was a fellow in the International College of Surgeons, president of the Spartanburg County Medical Society, and a vice president of the South Carolina Medical Association.

## DR. F. X. MACAULAY

Dr. Francis Xavier MacAulay, 50, died June 22 at his home after a sudden illness. Dr. MacAulay was a pathologist at Mullins Hospital.

## DR. I. H. TRINCHER

Dr. Irvin H. Trincher, 62, Veterans Hospital director in Columbia, died June 24 at his Veterans Hospital quarters after an apparent heart attack. Dr. Trincher received his medical degree from Columbia University College of Physicians and Surgeons. He entered the service of Veterans Administration in 1958 and has been director of the Columbia hospital since 1970.

## DR. J. B. WALLACE

Dr. John Beardsley Wallace died June 25 at his home at Lake Murray. Dr. Wallace was a retired U. S. Army lieutenant colonel and was acting director of the Health Services Department of the Mental Retardation Midland Center.

## DR. RIDDICK ACKERMAN, JR.

Dr. Riddick Ackerman, Jr., 66, died unexpectedly June 23 while attending a staff meeting at the Colleton County Hospital. Dr. Ackerman graduated from the Medical University of South Carolina in 1930 and served his internship in Detroit, Michigan. Since that time he has practiced in Walterboro. He was a member of the county, state and national medical associations and was on the Board of Directors of the Colleton County Hospital.

## DR. W. J. BUTT

Dr. William Joseph Butt died June 30 at his home after a long illness. Dr. Butt was a graduate of the Loyola School of Medicine and served for more than 30 years with the U. S. Government. He was a member of the American Association of Physicians and Surgeons and was appointed surgeon for the South Carolina branch of the Veterans of Foreign Wars.

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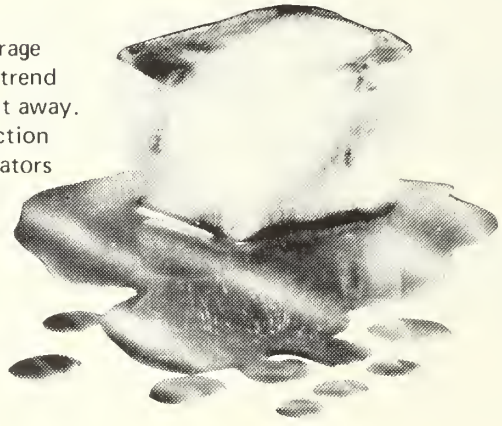
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**Indications:** Useful as a daytime sedative when mild sedation is required for relief of symptoms of anxiety or tension resulting from emotional, physical, or situational stress.
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**Precautions:** Exercise caution in moderate to severe hepatic disease. Elderly or debilitated patients may react with marked excitement or depression. **Adverse Reactions:** Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and systemic disturbances are seldom seen.
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Librium (chlordiazepoxide HCl) is used as adjunctive antianxiety therapy concomitantly with certain specific medications of other classes of drugs, such as cardiac glycosides, antihypertensive agents, diuretics, anticholinergics and antacids.

**Antianxiety effectiveness:** Demonstrated in a broad range of psychologic and physical dysfunctions; indicated when reassurance and counseling are not enough and until, in the physician's judgment, anxiety has been reduced to tolerable appropriate levels.

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**Safety:** An excellent clinical record. In general use, the most common side effects reported have been drowsiness, ataxia and confusion, particularly in the elderly and debilitated.

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**Librium®**
**(chlordiazepoxide HCl)**

**5-mg, 10-mg, 25-mg capsules**
**up to 100 mg daily in severe anxiety**

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**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Indicated when anxiety, tension and apprehension are significant components of the clinical profile.

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reve ble in most instances by proper dosag adjustment, but are also occasionally served at the lower dosage ranges. In a few instances syncope has been repor Also encountered are isolated instance skin eruptions, edema, minor menstru irregularities, nausea and constipatior extrapyramidal symptoms, increased decreased libido—all infrequent and generally controlled with dosage reduc tion; changes in EEG patterns (low-vol fast activity) may appear during and a treatment; blood dyscrasias (includin agranulocytosis), jaundice and hepati dysfunction have been reported occas ally, making periodic blood counts and liver function tests advisable during p tracted therapy.

**Supplied:** Librium® capsules containir 5 mg, 10 mg or 25 mg chlordiazepoxi HCl. Libritabs® tablets containing 5 m 10 mg or 25 mg chlordiazepoxide.

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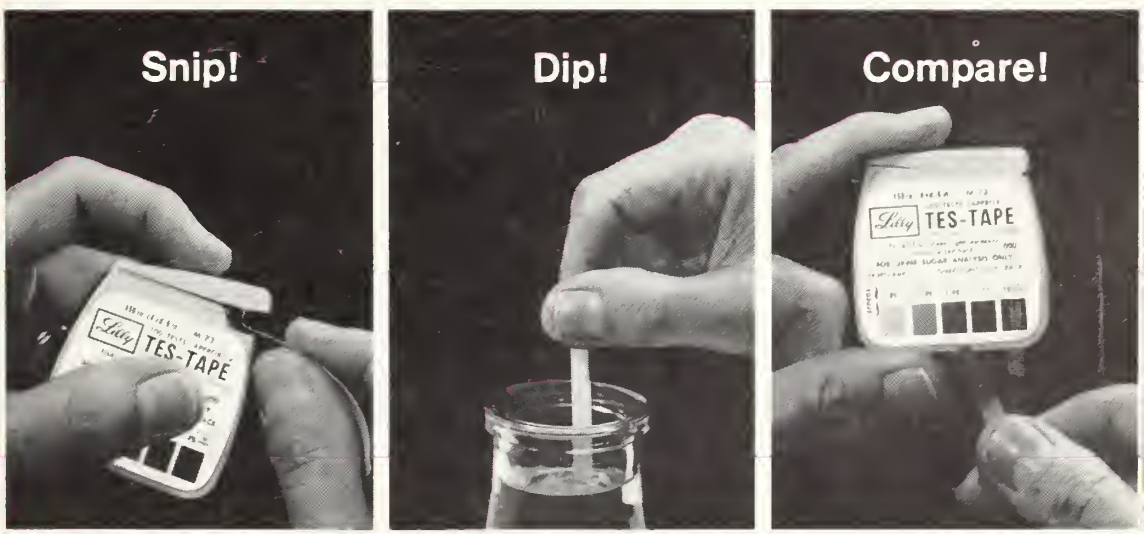
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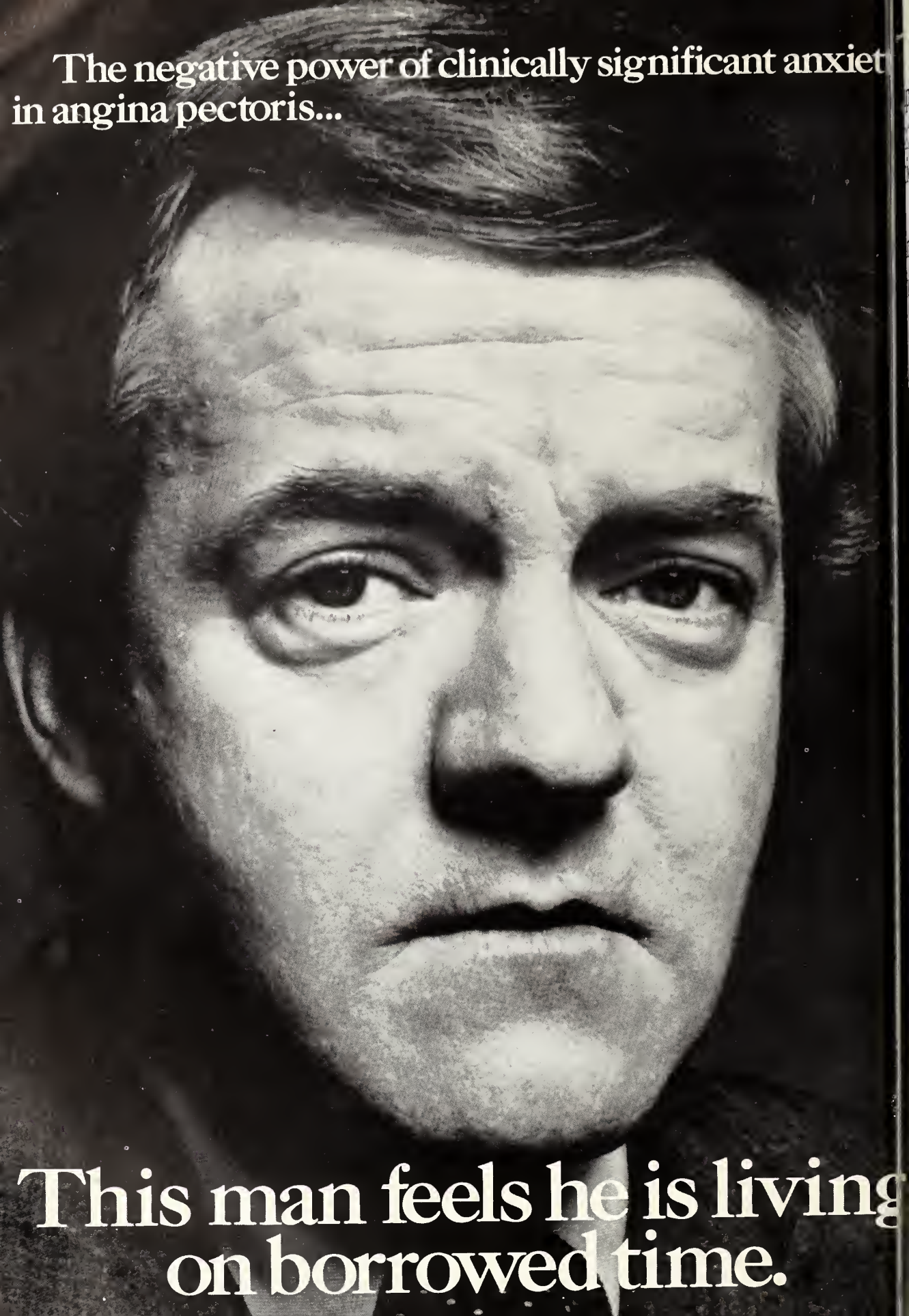
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The negative power of clinically significant anxiet
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# During anginal attacks, patients may suffer intense apprehension. More frequently, however, they experience a continuing sense of less severe but nonetheless disproportionate anxiety.

# Reduction of such clinically significant anxiety is important, since undue emotional stress may precipitate further anginal episodes.

MARTIN
3 OCT 1972

*Adjunctive Librium (chlordiazepoxide HCl) may be specially suitable* for relief of clinically significant anxiety and emotional tension in anginal patients because of its generally prompt therapeutic effectiveness and wide margin of safety. In a recent double-blind randomized study,* Librium (chlordiazepoxide HCl) was administered for relief of moderate anxiety in 20 anginal patients seen in office practice over a 20-week period. Symptoms of emotional distress related to anxiety were rated at base-line, one week, two weeks and monthly thereafter. Relief was obtained notably early in therapy. The clinical results demonstrated that Librium offers the coronary patient an antianxiety drug that, in the author's opinion, is both effective and safe. In general use, the most common side effects reported have been drowsiness, ataxia and confusion, particularly in the elderly and debilitated. (See summary of prescribing information.)

*Librium (chlordiazepoxide HCl) is used concomitantly* with certain specific medications of other classes of drugs, such as cardiac glycosides, diuretics and antihypertensive agents, whenever anxiety is clinically significant. The drug should be discontinued after anxiety has been reduced to appropriate levels.

## The positive power of adjunctive Librium® (chlordiazepoxide HCl)

**10-mg, 25-mg capsules up to 100 mg daily**

## for moderate to severe anxiety accompanying angina pectoris

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Relief of anxiety and tension occurring alone or accompanying various disease states.

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

**Supplied:** Librium® Capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.

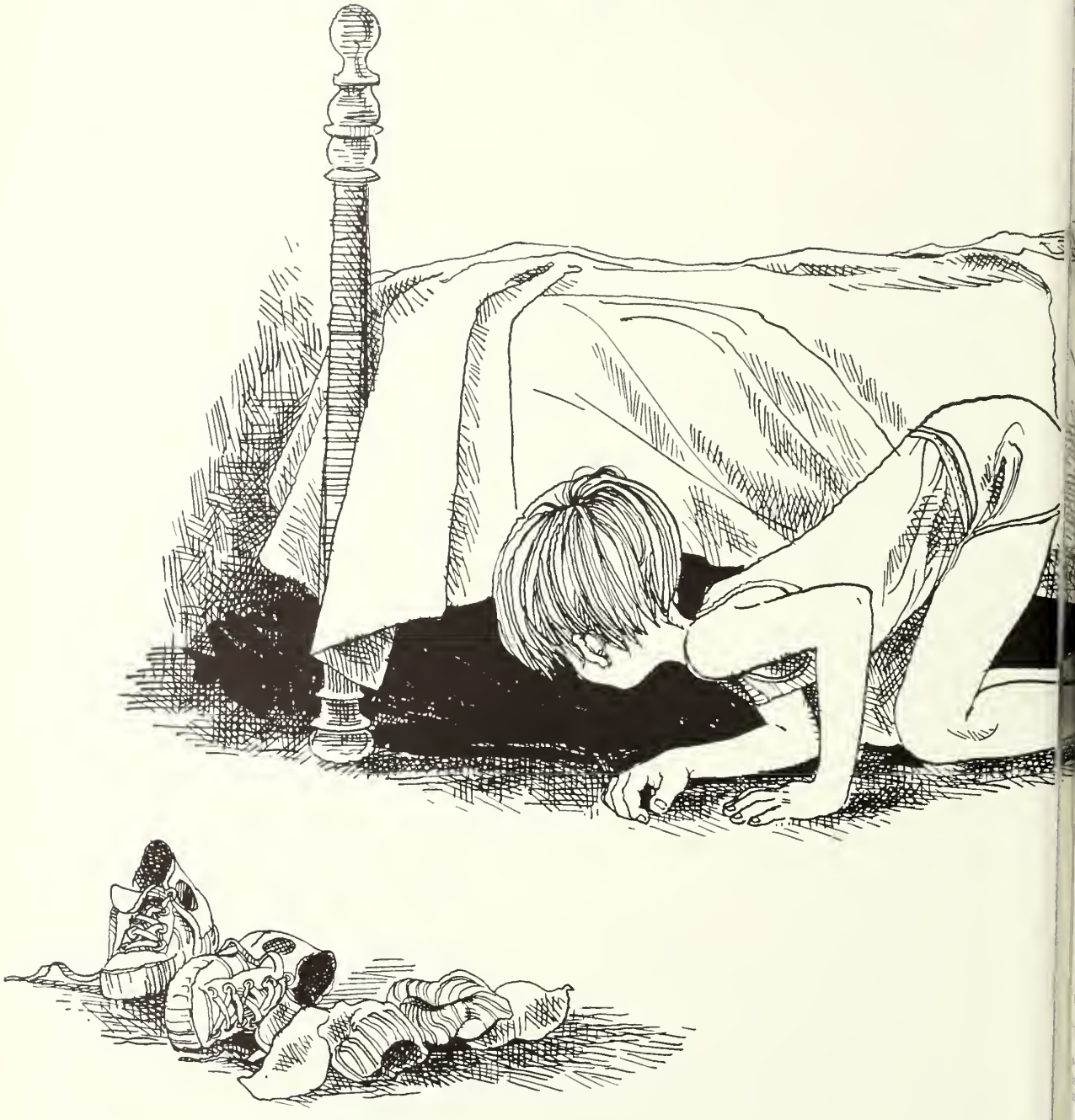
*Levine, S.: "Angina Pectoris and Emotional Overlay," Scientific Exhibit presented at the Annual Meeting of the Maine Medical Association, Kennebunkport, Me., June 13-15, 1971.

**A copy of the Levine study may be obtained from your Roche representative.**

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**Non-staining.** Doesn't stain teeth or oral mucosa on ingestion. Doesn't stain stools, clothing or linen.

**Simple dosage.** Single-dose regimen: 1 cc. per 10 lbs. of body weight (1 tsp. per 50 lbs.).

**Well-tolerated.** Based on pre-introductory studies.

**Pleasant-tasting.** Easy-to-take, caramel-flavored oral suspension.

**Economical.** One prescription for the entire family.

**Antiminth (pyrantel pamoate) Oral Suspension**

**Actions.** Antiminth (pyrantel pamoate) has demonstrated anthelmintic activity against *Enterobius vermicularis* (pinworm) and *Ascaris lumbricoides* (roundworm). The anthelmintic action is probably due to the neuromuscular blocking property of the drug.

Antiminth is partially absorbed after an oral dose. Plasma levels of unchanged drug are low. Peak levels (0.05-0.13 μg/ml) are reached in 1-3 hours. Quantities greater than 50% of administered drug are excreted in feces as the unchanged form, whereas only 7% or less of the dose is found in urine as the unchanged form of the drug and its metabolites.

**Indications.** For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

**Warnings.** *Usage in Pregnancy:* Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

**Precautions.** Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with pre-existing liver dysfunction.

**Adverse Reactions.** The most frequently encountered adverse reactions are related to the gastrointestinal system.

Gastrointestinal and hepatic reactions: anorexia, nausea, vomiting, gastralgia, abdominal cramps, diarrhea and tenesmus, transient elevation of SGOT.

CNS reactions: headache, dizziness, drowsiness, and insomnia.

Skin reactions: rashes.

**Dosage and Administration.** *Children and Adults:* Antiminth Oral Suspension (50 mg. of pyrantel base/ml.) should be administered in a single dose of 11 mg. of pyrantel base per kg. of body weight (or 5 mg./lb.); maximum total dose 1 gram. This corresponds to a simplified dosage regimen of 1 cc. of Antiminth per 10 lbs. of body weight. (One teaspoonful = 5 cc.)

Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day; and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices. Because of limited data on repeated doses, no recommendations can be made.

**How Supplied.** Antiminth is available as a pleasant tasting caramel-flavored suspension which contains the equivalent of 50 mg. pyrantel base per ml., supplied in 60 cc. bottles.

nt: **new ANTIMINTH®**

**(pyrantel pamoate)**

equivalent to 50 mg. pyrantel/ml.

ORAL SUSPENSION

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New York, New York 10017

*The Journal of The*
SOUTH CAROLINA
*Medical Association*

**SEPTEMBER, 1972 — VOL. 68, NO. 9**

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

**Contributions of Original Articles**

Mailing address—Edw. E. Kimbrough, M.D., Editor. 2709 Laurel Street, Columbia, S. C. 29204.

Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

Manuscripts—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

Illustrations—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

References—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, Arch Int Med 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard—e.g. mg, ml, Gm.

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*dications:* Stable adult diabetes ellitus; sulfonylurea failures, imary and secondary; adjunct to sulin therapy of unstable diabetes ellitus.

*ntraindications:* Diabetes mellitus at can be regulated by diet alone; venile diabetes mellitus that is complicated and well regulated on sulin; acute complications of abetes mellitus (metabolic acidosis, ma, infection, gangrene); during immediately after surgery where sulin is indispensable; severe patic disease; renal disease with emia; cardiovascular collapse hock); after disease states sociated with hypoxemia.

*Warnings:* Use during pregnancy is to be avoided.

*Precautions:* 1. *Starvation Ketosis:* This must be differentiated from "insulin lack" ketosis and is characterized by ketonuria which, in spite of relatively normal blood and urine sugar, may result from excessive phenformin therapy, excessive insulin reduction, or insufficient carbohydrate intake. Adjust insulin dosage, lower phenformin dosage, or supply carbohydrates to alleviate this state. **Do not give insulin without first checking blood and urine sugar.**

2. *Lactic Acidosis:* This drug is not recommended in the presence of azotemia or in any clinical situation that predisposes to sustained hypotension that could lead to lactic acidosis. To differentiate lactic acidosis from ketoacidosis, periodic determinations of ketones in the blood and urine should be made in diabetics previously stabilized on phenformin, or phenformin and insulin, who have become unstable. If electrolyte imbalance is suspected, periodic determinations should also be made of electrolytes, pH, and the lactate-pyruvate ratio. The drug should be withdrawn and insulin, when required, and other corrective measures instituted immediately upon the appearance of any metabolic acidosis.

3. *Hypoglycemia:* Although hypoglycemic reactions are rare when phenformin is used alone, every precaution should be observed during the dosage adjustment period particularly when insulin or a sulfonylurea has been given in combination with phenformin.

*Adverse Reactions:* Principally gastrointestinal; unpleasant metallic taste, continuing to anorexia, nausea and, less frequently, vomiting and diarrhea. Reduce dosage at first sign of these symptoms. In case of vomiting, the drug should be immediately withdrawn. Although rare, urticaria has been reported, as have gastrointestinal symptoms such as anorexia, nausea and vomiting following excessive alcohol intake.
(B) 98-146-103-D (6/72)

*For complete details, including dosage, please see full prescribing information.*

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# a new outlook in chronic pain

## of moderate to severe intensity

Though Talwin® Tablets, brand of pentazocine (as hydrochloride), can be compared to codeine in analgesic efficacy, Talwin is not subject to narcotic controls. Patients receiving Talwin Tablets for prolonged periods face fewer of the consequences you've come to expect with meperidine or codeine. And that, in the long run, can mean a better outlook for your chronic-pain patient.

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- **Tolerance not a problem:** tolerance to the analgesic effect of Talwin Tablets has not been reported, and no significant changes in clinical laboratory parameters attributable to the drug have been reported.
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- **Not subject to narcotic controls:** convenient to prescribe—day or night—even by phone.
- **Generally well tolerated by most patients:** infrequently cause decrease in blood pressure or tachycardia; rarely cause respiratory depression or urinary retention; seldom cause diarrhea or constipation. If dizziness, lightheadedness, nausea or vomiting are encountered, these effects tend to be self-limiting and to decrease after the first few doses. (See last page of this advertisement for a complete discussion of adverse reactions and a brief discussion of other Prescribing Information.)

50 mg. Tablets

**Talwin®**

brand of

**pentazocine** (as hydrochloride)

the long-range analgesic

# a new outlook in chronic pain

## of moderate to severe intensity



**Contraindications:** Talwin, brand of pentazocine (as hydrochloride), should not be administered to patients who are hypersensitive to it.

**Warnings:** *Head Injury and Increased Intracranial Pressure.* The respiratory depressant effects of Talwin and its potential for elevating cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions, or a preexisting increase in intracranial pressure. Furthermore, Talwin can produce effects which may obscure the clinical course of patients with head injuries. In such patients, Talwin must be used with extreme caution and only if its use is deemed essential.

*Usage in Pregnancy.* Safe use of Talwin during pregnancy (other than labor) has not been established. Animal reproduction studies have not demonstrated teratogenic or embryotoxic effects. However, Talwin should be administered to pregnant patients (other than labor) only when, in the judgment of the physician, the potential benefits outweigh the possible hazards. Patients receiving Talwin during labor have experienced no adverse effects other than those that occur with commonly used analgesics. Talwin should be used with caution in women delivering premature infants.

*Drug Dependence.* There have been instances of psychological and physical dependence on parenteral Talwin in patients with a history of drug abuse and, rarely, in patients without such a history. Abrupt discontinuance following the extended use of parenteral Talwin has resulted in withdrawal symptoms. There have been a few reports of dependence and of withdrawal symptoms with orally administered Talwin. Patients with a history of drug dependence should be under close supervision while receiving Talwin orally.

In prescribing Talwin for chronic use, the physician should take precautions to avoid increases in dose by the patient and to prevent the use of the drug in anticipation of pain rather than for the relief of pain.

*Acute CNS Manifestations.* Patients receiving therapeutic doses of Talwin have experienced, in rare instances, hallucinations (usually visual), disorientation, and confusion which have cleared spontaneously within a period of hours. The mechanism of this reaction is not known. Such patients should be very closely observed and vital signs checked. If the drug is reinstituted it should be done with caution since the acute CNS manifestations may recur.

*Usage in Children.* Because clinical experience in children under 12 years of age is limited, administration of Talwin in this age group is not recommended.

*Ambulatory Patients.* Since sedation, dizziness, and occasional euphoria have been noted, ambulatory patients should be warned not to operate machinery, drive cars, or unnecessarily expose themselves to hazards.

**Precautions:** *Certain Respiratory Conditions.* Although respiratory depression has rarely been reported after oral administration of Talwin, the drug should be administered with caution to patients with respiratory depression from any cause, severe bronchial asthma and other obstructive respiratory conditions, or cyanosis.

*Impaired Renal or Hepatic Function.* Decreased metabolism of the drug by the liver in extensive liver disease may predispose to accentuation of side effects. Although laboratory tests have not indicated that Talwin causes or increases renal or hepatic impairment, the drug should be administered with caution to patients with such impairment.

*Myocardial Infarction.* As with all drugs, Talwin should be used with caution in patients with myocardial infarction who have nausea or vomiting.

*Biliary Surgery.* Until further experience is gained with the effects of Talwin on the sphincter of Oddi, the drug should be used wit caution in patients about to undergo surgery of the biliary trac

*Patients Receiving Narcotics.* Talwin is a mild narcotic antagonis Some patients previously receiving narcotics have experienced mil withdrawal symptoms after receiving Talwin.

*CNS Effect.* Caution should be used when Talwin is administere to patients prone to seizures; seizures have occurred in a few suc patients in association with the use of Talwin although no cause an effect relationship has been established.

**Adverse Reactions:** Reactions reported after oral administratio of Talwin include *gastrointestinal:* nausea, vomiting; infrequentl constipation; and rarely abdominal distress, anorexia, diarrhe *CNS effects:* dizziness, lightheadedness, sedation, euphoria, hea ache; infrequently weakness, disturbed dreams, insomnia, syncop visual blurring and focusing difficulty, hallucinations (see *Acut CNS Manifestations* under WARNINGS); and rarely tremor, irr tability, excitement, tinnitus. *Autonomic:* sweating; infrequentl flushing; and rarely chills. *Allergic:* infrequently rash; and rarel urticaria, edema of the face. *Cardiovascular:* infrequently decreas in blood pressure, tachycardia. *Other:* rarely respiratory depressior urinary retention.

**Dosage and Administration:** *Adults.* The usual initial adult dose i 1 tablet (50 mg.) every three or four hours. This may be increase to 2 tablets (100 mg.) when needed. Total daily dosage should no exceed 600 mg.

When antiinflammatory or antipyretic effects are desired in add tion to analgesia, aspirin can be administered concomitantly wit Talwin.

*Children Under 12 Years of Age.* Since clinical experience in chi dren under 12 years of age is limited, administration of Talwin i this age group is not recommended.

*Duration of Therapy.* Patients with chronic pain who have receive Talwin orally for prolonged periods have not experienced with drawal symptoms even when administration was abruptly discor tinued (see WARNINGS). No tolerance to the analgesic effect ha been observed. Laboratory tests of blood and urine and of liver an kidney function have revealed no significant abnormalities afte prolonged administration of Talwin.

**Overdosage:** *Manifestations.* Clinical experience with Talwin ove dosage has been insufficient to define the signs of this condition.

*Treatment.* Oxygen, intravenous fluids, vasopressors, and othe supportive measures should be employed as indicated. Assisted c controlled ventilation should also be considered. Although nalo phine and levallorphan are *not* effective antidotes for respirato depression due to overdosage or unusual sensitivity to Talwin, pa enteral naloxone (Narcan®, available through Endo Laboratories) a specific and effective antagonist. If naloxone is not available, pa enteral administration of the analeptic, methylphenidate (Ritalin® may be of value if respiratory depression occurs.

Talwin is not subject to narcotic controls.

**How Supplied:** Tablets, peach color, scored. Each tablet contair Talwin (brand of pentazocine) as hydrochloride equivalent to 50 m base. Bottles of 100.

Winthrop Winthrop Laboratories, New York, N. Y. 10016 (1583

**50 mg. Tablets**

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# Pinworm therapy is often a family affair





**Contraindications:** History of hypersensitivity to thiabendazole.
**Warnings:** If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.
**Precautions:** Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
**Adverse Reactions:** Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live Ascaris in the mouth and nose. Hypersensitivity reactions

# A New Dosage Form:

# Chewable Tablets 500 mg Mintezol®
(THIABENDAZOLE | MSD)



so easy to take everyone in the family will keep to the regimen you prescribe

include: fever, facial flush, chills, conjunctival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (including Stevens-Johnson syndrome), and lymphadenopathy.
**Supplied:** Chewable tablets, containing 500 mg thiabendazole, in boxes of 36, strip packaged, individually foil wrapped; Suspension, containing 500 mg thiabendazole per 5 cc, in bottles of 120 cc.

*For more detailed information, consult your MSD representative or see the Direction Circular. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486*

MSD
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addendum

## INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infestations, whether encountered singly or in combination. Dosages are weight related; therefore, a weight-dose chart is included in the Direction Circular for your convenience when writing a prescription. MINTEZOL should be given after meals if possible.

| INDICATIONS | DOSAGE (1st Day) | ADDITIONAL REGIMEN | COMMENTS |
|---|---|---|---|
| Pinworm disease | Two doses of 1 tablet/50 lb | Repeat 7 days later | This regimen is designed to reduce the risk of reinfection. However, if not practical, repeat the regimen the next day. |
| Threadworm,* large roundworm,* hookworm,* and whipworm* disease | Two doses of 1 tablet/50 lb | Repeat the next day | Alternatively, a single dose of 2 tablets/50 lb may be given. However, a higher incidence of side effects should be expected. |
| Creeping eruption | Two doses of 1 tablet/50 lb | Repeat the next day | If active lesions are still present 2 days after completing this regimen, a second course is recommended. |
| Symptoms of trichinosis* during the invasive phase of the disease | Two doses of 1 tablet/50 lb | Repeat for 2 to 4 successive days | The optimal dosage for the treatment of trichinosis has not been established. |

The recommended maximal daily dosage is 3 g (6 tablets).

*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

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# Iron therapy for anemia is almost as old as history itself



Celsus's empirical use of iron

Aulus Cornelius Celsus recommended an unusual form of iron therapy for the treatment of enlarged spleens—the oral administration of water that blacksmiths had used for dousing white-hot iron.

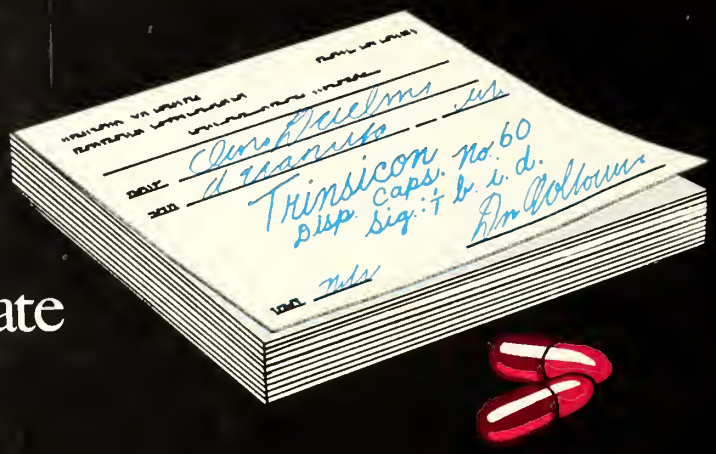
# For more modern anemia therapy

## Trinsicon®

## Hematinic Concentrate with Intrinsic Factor

(See reverse side for prescribing information.)

# Trinsicon®
## Hematinic Concentrate with Intrinsic Factor




**Description:** Each Pulvule® contains—

| | |
|---|---|
| Special Liver-Stomach Concentrate, Lilly (containing Intrinsic Factor) | 240 mg. |
| Cobalamin Concentrate, N.F., equivalent to Cobalamin | 7.5 mcg. |

(The total vitamin $B_{12}$ activity in the Special Liver-Stomach Concentrate, Lilly, and the Cobalamin Concentrate, N.F., is 15 micrograms.)

| | |
|---|---|
| Iron, Elemental (as Ferrous Fumarate) | 110 mg. |
| Ascorbic Acid (Vitamin C) | 75 mg. |
| Folic Acid | 0.5 mg. |

**Indications:** Trinsicon is a multifactor preparation effective in the treatment of anemias that respond to oral hematinics, including pernicious anemia and other megaloblastic anemias and also iron-deficiency anemia. Therapeutic quantities of hematopoietic factors that are known to be important are present in the recommended daily dose.

*Vitamin $B_{12}$ with Intrinsic Factor*—When secretion of intrinsic factor in gastric juice is inadequate or absent (e.g., in Addisonian pernicious anemia or after gastrectomy), vitamin $B_{12}$ in physiological doses is absorbed poorly, if at all. The resulting deficiency of vitamin $B_{12}$ leads to the clinical manifestations of pernicious anemia. Similar megaloblastic anemias may develop in fish tapeworm (*Diphyllobothrium latum*) infection or after a surgically created small-bowel blind loop; in these situations, treatment requires freeing the host of the parasites or bacteria which appear to compete for the available vitamin $B_{12}$. Strict vegetarianism and malabsorption syndromes may also lead to vitamin $B_{12}$ deficiency. In the latter case, parenteral therapy, or oral therapy with so-called massive doses of vitamin $B_{12}$, may be necessary for adequate treatment of the patient.

Potency of intrinsic factor concentrates is determined physiologically, i.e., by their use in patients with pernicious anemia. The liver-stomach concentrate with intrinsic factor and the vitamin $B_{12}$ contained in two Pulvules Trinsicon provide 1½ times the minimum amount of therapeutic agent which, when given daily in an uncomplicated case of pernicious anemia, will produce a satisfactory reticulocyte response and relief of anemia and symptoms.

Concentrates of intrinsic factor derived from hog gastric, pyloric, and duodenal mucosa have been used successfully in patients who lack intrinsic factor. For example, Fouts *et al.* maintained patients with pernicious anemia in clinical remission with oral therapy (liver extracts or intrinsic factor concentrate with vitamin $B_{12}$) for as long as twenty-nine years.

After total gastrectomy, Ficarra found multifactor preparations taken orally to be "just as effective in maintaining blood levels as any medication that has to be administered parenterally." His study was based on twenty-four patients who had survived for five years after total gastrectomy for cancer and who had been taking two Pulvules Trinsicon daily.

*Folic Acid*—Folic acid deficiency is the immediate cause of most, if not all, cases of nutritional megaloblastic anemia and of the megaloblastic anemias of pregnancy and infancy; usually, it is also at least partially responsible for the megaloblastic anemias of malabsorption syndromes, e.g., tropical and nontropical sprue.

It is apparent that in vitamin $B_{12}$ deficiency (e.g., pernicious anemia), lack of this vitamin results in impaired utilization of folic acid. There are other evidences of the close folic acid-vitamin $B_{12}$ interrelationship: (1) $B_{12}$ influences the storage, absorption, and utilization of folic acid, and (2), as a deficiency of $B_{12}$ progresses, the requirement for folic acid increases. However, folic acid does not change the requirement for vitamin $B_{12}$.

*Iron*—A very common anemia is that due to iron deficiency. In most cases, the response to iron salts is prompt, safe, and predictable. Within limits, the response is quicker and more certain to large doses of iron than to small doses.

Each Pulvule Trinsicon furnishes 110 mg. of elemental iron (as ferrous fumarate) to provide a maximum response.

*Ascorbic Acid*—Vitamin C plays a role in anemia therapy. It augments the conversion of folic acid to its active form, folinic acid. In addition, ascorbic acid promotes the reduction of ferric iron in food to the more readily absorbed ferrous form. Severe and prolonged vitamin C deficiency is associated with an anemia which is usually hypochromic but occasionally megaloblastic in type.

**Contraindications and Precautions:** Anemia is a manifestation that requires appropriate investigation to determine its cause or causes.

Folic acid *alone* is unwarranted in the treatment of pure vitamin-$B_{12}$-deficiency states, such as pernicious anemia. Indeed, the use of folic acid in large doses in pernicious anemia without adequate vitamin $B_{12}$ may result in hematologic remission but neurological progression.

As with all preparations containing intrinsic factor, resistance may develop in some cases of pernicious anemia to the potentiation of absorption of physiological doses of vitamin $B_{12}$. If resistance occurs, parenteral therapy, or oral therapy with so-called massive doses of vitamin $B_{12}$, may be necessary for adequate treatment of the patient. No single regimen fits all cases, and the status of the patient observed in follow-up is the final criterion for adequacy of therapy. Periodic clinical and laboratory studies are considered essential and are recommended.

In extremely rare instances, skin rash suggesting allergy has been noted following the oral administration of liver-stomach material. Allergic sensitization has been reported following both oral and parenteral administration of folic acid.

Hemochromatosis and hemosiderosis are contraindications to iron therapy.

**Adverse Reactions:** In rare instances, iron in therapeutic doses produces gastrointestinal reactions, such as diarrhea or constipation. Reducing the dose and administering it with meals will minimize these effects in the iron-sensitive patient.

**Dosage:** One Pulvule twice a day. (Two Pulvules daily produce a standard response in the average uncomplicated case of pernicious anemia.)

**How Supplied:** Pulvules Trinsicon® (hematinic concentrate with intrinsic factor, Lilly), in bottles of 60 and 500 and in Identi-Dose® (unit dose medication, Lilly) in boxes of 100. [050971]

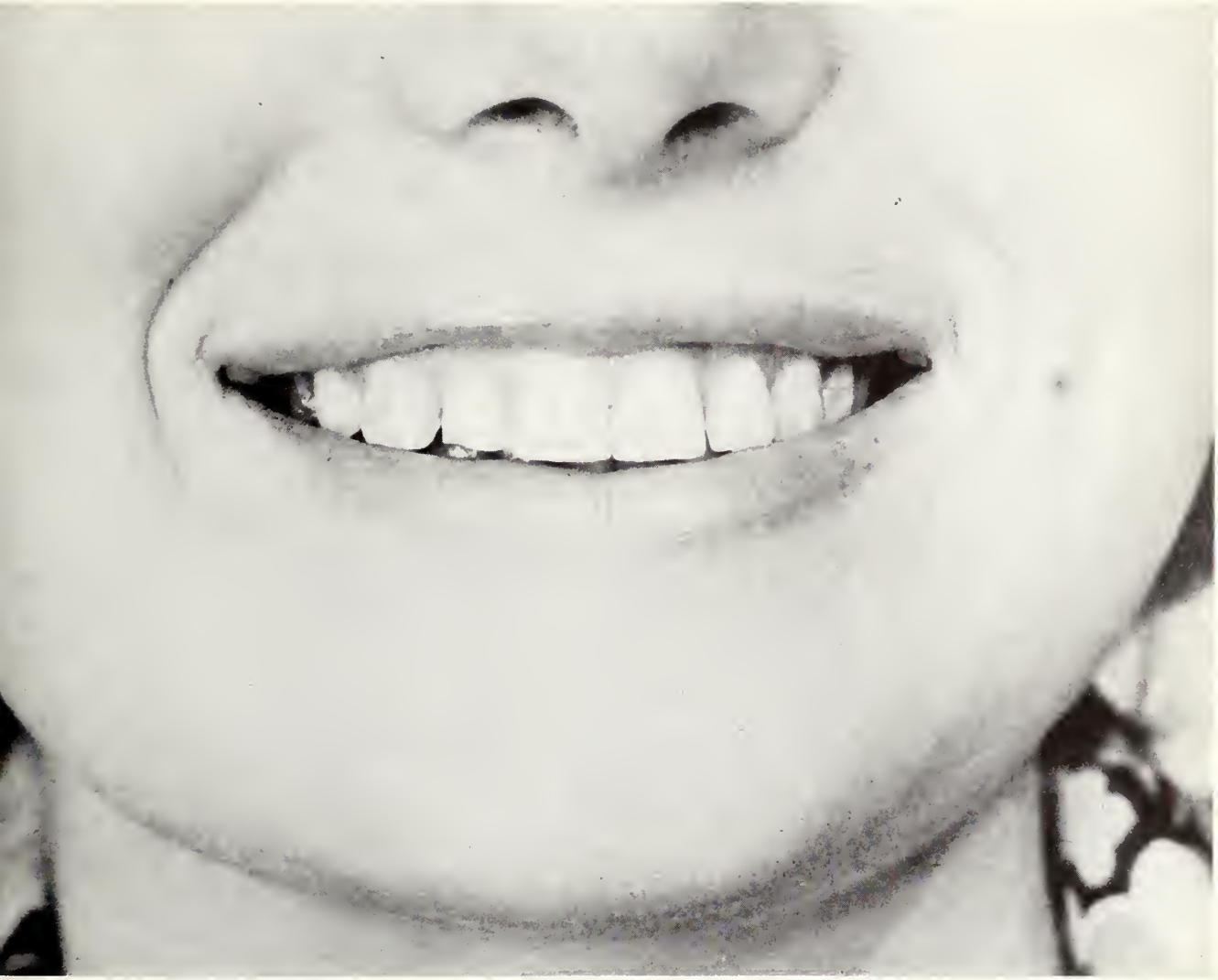
# Trinsicon®
## Hematinic Concentrate with Intrinsic Factor
## A Comprehensive Hematinic

*Additional information available to the profession on request.*

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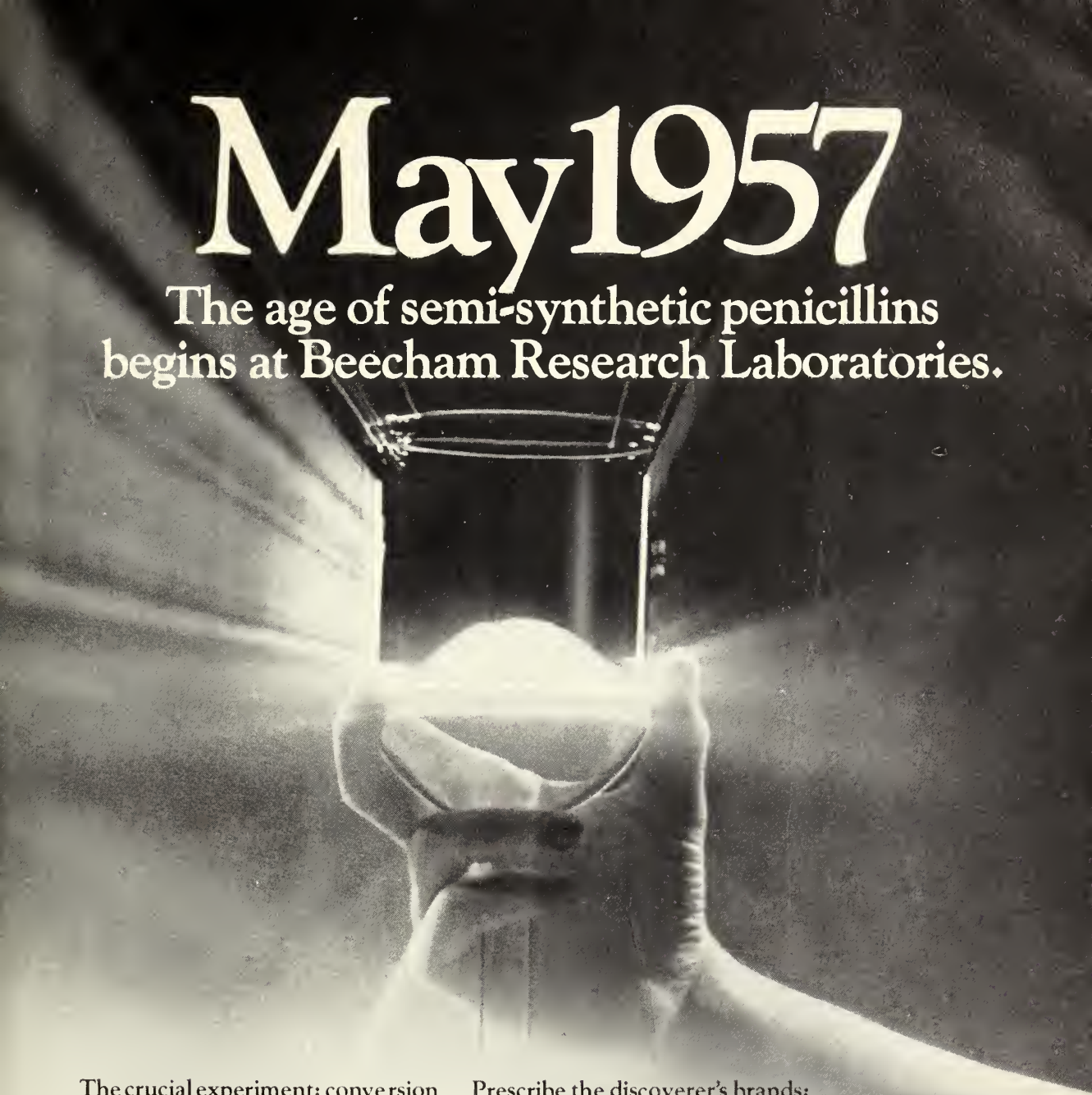
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**Warnings:** Safety of sulfonamides in *pregnancy* has not been established. Sulfonamides will not eradicate group A streptococci. Deaths associated with sulfonamide administration have been reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Clinical signs such as sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. Complete blood counts and urinalyses with careful microscopic examination should be performed frequently during sulfonamide therapy.

**Precautions:** Use with caution when impaired renal or hepatic function, severe allergy or bronchial asthma is present. In glucose-6-phosphate dehydrogenase-deficient individuals, hemolysis (frequently a dose-related reaction) may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias:* Agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia, methemoglobinemia. *Allergic reactions:* Erythema multiforme (Stevens-Johnson syndrome), generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia, allergic myocarditis. *Gastrointestinal reactions:* Nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis, stomatitis. *C.N.S. reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L.E. phenomenon have occurred with sulfonamide therapy. Sulfonamides bear certain chemical similarities to some goitrogens, diuretics and oral hypoglycemic agents. Goiter production, diuresis and hypoglycemia have occurred rarely in patients receiving sulfonamides. Cross-sensitivity may exist with these agents.

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# Would it be useful in clinical practice to have government predetermine drugs of choice?

# Opinion

Results of a survey of physicians:

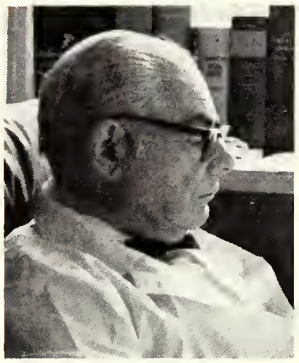
13.3%
Yes, it would be useful.

86.7%
No, it would not be useful.

# Would it be useful in clinical practice to have government predetermine drugs of choice?

## Doctor of Medicine

Walter Modell, M.D.,
Professor of Pharmacology,
Cornell University
Medical College,
Editor,
Clinical Pharmacology
& Therapeutics,
Drugs of Choice,
Rational Drug Therapy



The proposition that government should determine one or two "drugs of choice" within a given therapeutic class reflects the belief that a similarity in molecular structure insures a close similarity in pharmacologic effect. But this is by no means the rule. An obvious example would be in the field of diuretics, where a small change in chemical structure accounts for substantial differences in concomitant effects such as potassium excretion.

Any attempt to dictate the "drug of choice" would be complicated by the fact that some populations demonstrate a bimodal distribution in their reaction to drugs. If the data on drug response are mixed for the total population, one drug will appear to be as useful as the other. But if drug response is reported separately for different segments of the population, drug A will be found to be better for one group and drug B for the other.

It may, of course, be possible to determine drugs of choice in particular categories on a broad statistical basis. But there are always certain patients in whom a drug produces odd, unpredictable or idiosyncratic reactions. So, though a drug might statistically be the most useful one in a given situation, individual variations in response might make it the *incorrect* one.

The point I wish to make is that if two, three, four or more drugs in one class are of approximately equal merit, that in itself is justification for their availability. Exceptional cases do arise in which one drug would be useful to a certain segment of the population and another drug would be of no use at all. In the practice of medicine, the physician must be prepared to treat the routine as well as the unusual case.

Another objection to the determination of a drug of choice is that precise statements of *relative* efficacy are very difficult to make—much more difficult than statements of efficacy. For example, in testing drug efficacy, it is easy to determine the difference between a drug that is effective in treating a condition and one that is not at all effective. Thus, it is fairly easy to determine whether a drug is more effective than a placebo. But if you compare one drug that is effective with another drug that is also effective, and the relative differences between them are very slight, statements of relative efficacy may be very difficult to make with assurance.

I do not mean to imply that relative efficacy statements are not useful or can never be made. With some groups of drugs (e.g., analgesics), extensive study and precise methodology have yielded useful information on relative efficacy. But in most situations, such information can be acquired only through studies encompassing three to five years of use in many more patients than are used to compare drugs with a placebo for the introduction of a drug into commerce. It is really only after practitioners use a drug extensively that relative safety and efficacy in practice can really determined.

The Bureau of Drugs h suggested the package i sert as a possible means communicating informati on relative efficacy of dru to the physician. I find tl objectionable, since I not believe the physici should have to rely on tl source for final scienti truth. There is also a pra tical objection: Since f physicians actually di pense drugs, they seldo see the package insert. any event, I would mai tain that the physici should know what drug wants and why without c pending on the governme or the manufacturer to t him.

Undoubtedly, physicia are swamped by excessi numbers of drugs in so therapeutic categories. A I am well aware that ma drugs within such cat gories could be eliminat without any loss, or p haps even some profit, the practice of medici But, in my opinion, neith the FDA nor any oth single group has the exp tise and the wisdom nec sary to determine the c "drug of choice" in areas of medical practice

# aker of Medicine

a G. Kohlstaedt, M.D.,
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t may be apparent that the established products should not be so easily dismissed.

Variation in patient response to drugs constitutes one of the major obstacles to the determination of "drugs of choice." We are just beginning to open the door on pharmacogenetics, but it is evident that genetic differences cause wide variations in the way drugs are absorbed, metabolized, etc. This fact alone is sufficient to make unrealistic the idea that there is one drug in each class to be used for every human being.

The problem of determining relative drug efficacy is an extremely complicated one. Comparison with other drugs of the same class should not be a prerequisite for marketing a new substance. In some therapeutic areas, it may be difficult to make accurate comparisons. For example, in the treatment of infections it is not possible to conduct crossover studies. Recovery may be influenced by factors which cannot be controlled or measured, i.e., natural host resistance and virulence of infective agents. A drug's acceptability must often be judged on the basis of its own performance, and this may be limited to experience in a relatively small patient population. If the introduction of a new drug must await the adequate establishment of relative efficacy, the duration of clinical trial and extent of studies would be greatly prolonged, particularly for rare or unusual conditions. The availability of a new drug would be delayed. Many patients might suffer needlessly and lives might be lost.

Relative efficacy can best be established by experience in a general patient population through regular channels of clinical practice. The physician considers the patient as a whole, which means the patient often has multiple problems and drugs must be selected with this in mind. Hence, a "drug of choice" in an uncomplicated case may not be the best drug for a patient with associated problems. Publication of well-controlled studies in medical journals may provide comparative evidence; discussions at medical meetings, presentations at postgraduate courses, and the new audiovisual technology may bring evidence to physicians on comparative therapy. In a free medical marketplace, a drug that does not measure up will fall into disuse. For example, broad clinical experience has established vitamin $B_{12}$ as the "drug of choice" for the treatment of primary pernicious anemia. No amount of advertising or promotional effort by the manufacturer could increase the use of liver extract for this anemia. However, a physician may wish to employ parenteral liver preparations for a special purpose.

In the field of surgery, peer review in the hospital has brought significant improvement in the use of new techniques and procedures. Something of this nature would be useful in the area of drug therapy. However, it should be developed by the medical profession itself and would necessitate, for its proper function, an improvement in the dissemination of reliable data on clinical pharmacology of drugs under consideration.

Ideally, information on the relative efficacy of drugs should be gathered and assessed by the physicians who actually administer the specific agents to a specific patient population. To do this, they will need even more information on the drugs they use – information that the pharmaceutical manufacturers must begin to provide if government regulation of "*drugs of choice*" is to be avoided.

## Opinion & Dialogue

**What is your opinion, doctor?**
**Send us your comments on the above issue.**

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VOLUME 68 SEPTEMBER, 1972 NUMBER 9

# EFFECTS OF AN UNUSUALLY LARGE AMOUNT OF INTRAVENOUS LIDOCAINE

GRADY H. HENDRIX, M. D.*
MAXWELL E. CLINE, M. D.**

Lidocaine by the intravenous route was first recognized as being an effective anti-arrhythmic agent for ventricular arrhythmias by Southworth in 1950.[1] It has now become a widely used agent for the treatment of acute ventricular arrhythmias.[2-4] Popular methods of administration have consisted of a rapid bolus of 25-100 mg intravenously and titration of intravenous drips containing 1 to 2 grams in 1000 ml of intravenous solution.

The following case report concerns a patient who was given a rather large bolus of intravenous lidocaine.

**CASE REPORT.** A 52-year-old male was admitted to the Charleston, S. C., Veteran's Administration Hospital with a seven year history of paroxysmal arrhythmias. A persistent sense of rapid heart action with progressive orthopnea and paroxysmal noctural dyspnea had been present for 2 months. He had been found to be in atrial flutter at another hospital on the day of admission. There was no known chest pain, myocardial infarction, hypertension or rheumatic fever in the past and he did not use alcohol or smoke.

Physical examination revealed a blood pressure of 140/100 and pulse of 150 which was regular. He was afebrile and moderately dyspneic. The neck veins were modestly distended at 45° and a few bilateral basilar rales were present. The heart was moderately enlarged and no murmurs were heard. The liver was not palpable and there was no pretibial edema.

The electrocardiogram showed atrial flutter with 2:1 atrio-ventricular block with an atrial rate of 300 and a ventricular rate of 150 with occasional premature ventricular contractions and left ventricular hypertrophy. A chest x-ray film showed generalized cardiomegaly, pulmonary vascular congestion, and a small right pleural effusion. The basic laboratory tests were normal.

The initial impression was a myocardiopathy. Shortly after admission the patient received a synchronized direct current shock of 25 watt seconds without reversion followed by 100 watt seconds with reversion to a sinus rhythm. He was then digitalized with 1.5 mg of Digoxin orally over 24 hours and placed on Quinidine 300 mg every 6 hours orally. The premature ventricular contractions increased to the point of ventricular bigeminy and Quinidine and Digoxin were discontinued.

Three days after admission the ventricular irritability persisted in the form of ventricular bigeminy and short runs of ventricular tachycardia. It was decided to give the patient a bolus of lidocaine 50 mg intravenously after a run of ventricular tachycardia. A dose of 50 ml of lidocaine was prepared (10 mg/ml) rather than 50 mg and this was not recognized until the patient had received 40 ml (400 mg) over a 30 second period.

The patient immediately began to complain of a pressure sensation in both ears which was followed over a period of 30-45 seconds by slurring of speech and unresponsiveness. His respirations became shallow and dropped to 8 per minute, with his heart rate rising to 120 per minute without premature ventricular beats and his blood pressure remaining 130/80.

*Associate Professor of Medicine
**Resident in Medicine
Medical University Hospital and Veterans Administration Hospital, Medical University of South Carolina, Charleston, South Carolina
Address for Reprints: Dr. Grady H. Hendrix, Medical University Hospital, 80 Barre Street, Charleston, South Carolina 29401

There was no seizure activity. Marked lacrimation occurred. Five minutes after the injection he began blinking his eyes and saying a few words in a slow deliberate manner. He states that he was "numb all over" and could not move. Ten minutes after the injection he could move his fingers and toes but could not raise his arms or legs. He could understand and obey commands but could speak only in a careful slow manner. Seventeen minutes after the injection he could lift all extremities from the bed and 20 minutes after the injection could lift his head. Thirty minutes after receiving the injection he had regained all of his muscle strength. Slight dizziness and nausea were present until the 45 minute mark after which he appeared normal. His respirations had returned to 16 per minute with a normal depth 10 minutes after the injection. Electrocardiographic monitoring throughout this period of time showed no premature ventricular contractions and with a normal sinus rhythm increasing from 70/minute initially to 120/minute at the 5 minute mark and returning to 70/minute shortly thereafter with no conduction abnormalities. Respiratory assistance was available but not used during the period of respiratory depression.

There was no premature ventricular beats for three days following the above episode. The patient's heart failure gradually improved and his ventricular irritability became less of a problem. He was discharged three weeks after the above episode on digitalis and diuretics with a sinus rhythm and a rare premature ventricular beat. The final diagnosis was myocardiopathy due to unknown etiology.

## DISCUSSION

The maximum dose of intravenous lidocaine advisable in the treatment of arrhythmias has been derived primarily from observing the therapeutic effects. The generally advised amounts are up to 100 mg in a rapidly administered intravenous bolus or 100 mg per hour diluted in an intravenous drip.[5]

Quantities up to 400 mg have been used in regional anesthesia but the release in the systemic circulation was prolonged.[6-11] These amounts have generally been well tolerated but in one instance an 18 year old had a convulsion when given 300 mg in an extremity for regional anesthesia.[12] Total anesthesia of an extremity can be performed by injecting lidocaine into the circulation of an extremity with a proximal tourniquet in place. When the tourniquet is released complaints of giddiness, feeling detached, nausea, apprehension, and dizziness occur at times.[6-11] Muscular twitching and respiratory depression have been noted.[7,9] Sinus bradycardia and wandering pacemakers have occasionally been observed on the electrocardiogram.[6,10]

Human volunteers have been given up to 200 mg intravenously over a 2 minute, 20 second period with complaints of sleepiness, sensation of pressure on the forehead, numbness of lips and tongue, difficulty in speaking and muscular twitching. There were no cardiovascular or respiratory changes and the effects were gone in 10 minutes.[13] There have been occasions where very large amounts up to 400 mg per hour have been used in intravenous drips without life threatening consequences.[14] The undesirable effects on the cardiovascular system of man and animals have generally been reported as a decrease in myocardial contractility, slowing of heart rate, drop in blood pressure, and decrease in cardiac output.[15-17] This has been shown to occur at all dose levels, whether therapeutic or toxic.

The case presented and a review of the literature suggest that a large amount of lidocaine injected into the circulation at a rapid rate is unlikely to result in life threatening cardiovascular, respiratory, or neurologieal problems. The transient nature of the effect of the drug with the maximum effects lasting 10 to 20 minutes is again emphasized as one of its principal safety features in the event of the use of a very large dose or a more sensitive response of the patient to the drug.

One should be prepared to treat respiratory depression, cardiovascular collapse, and neurological disorders, particularly seizure activity, in the event of an overdose of the drug.

## SUMMARY

A case is presented of an individual who received inadvertently a 400 mg bolus of lidocaine over 30 seconds as treatment for ventricular arrhythmias. The patient's response was monitored and these findings associated with a review of the literature again emphasize the relative safety of this very effective pharmacological agent in the treatment of ventricular arrhythmias.

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*Management of White Lung Syndrome*

H. S. BROWN et al (1175 Peachtree St. NE, Atlanta 30309) *Ann Thorac Surg* 13:411-419 (May) 1972

Seventeen patients satisfying the criteria of so-called white lung syndrome accompanying bodily injury were treated in private hospitals in metropolitan Atlanta during a three-year period. The use of continuous positive-pressure breathing (CPPB) increased survival rate and diminished both mechanical ventilation time and hospital stay dramatically. In all patients, CPPB resulted in an elevation of arterial $P_{O_2}$ and improved the chances of survival if nonrespiratory problems could be corrected.

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*Pulmonary Alterations in Acutely Injured Patient*

J. E. OKIES et al (G. A. GUINN, VA Hosp, 2002 Holcombe Blvd, Houston 77035) *Ann Thorac Surg* 13:420-426 (May) 1972

In ten patients following acute chest trauma, a definite correlation was found between the degree of trauma and alterations in lung function. Tracheostomy with assisted ventilation was required in seven patients because of flail segments of the chest wall and hypoxia. Repeat lung scan showed a return to normal as early as two months following injury. Late follow-up lung scan and spirometry in eight of the patients demonstrated normal values in the majority. Serial blood gas determinations proved to be the best guide to adequacy of ventilation in patients with acute chest trauma.

*Widened Mediastinum in Trauma*

S. ATTAR et al (Univ of Maryland School of Medicine, Baltimore 21201) *Ann Thorac Surg* 13:435-449 (May) 1972

Twenty-four patients with widened mediastinum were studied; seven had ruptured thoracic aorta, eight had meditastinal hematoma, six had paravertebral hematoma, and three, due to faulty diagnostic technique, appeared to have widened mediastinum. Wide mediastinum is caused by aortic rupture or mediastinal hematoma, but poor radiographic technique can lead to a mistaken diagnosis. The plain chest film and the aortagram are essential for proper diagnosis.

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*Observer Error in Reporting on Liver Scans for Space-Occupying Lesions*

J. LUDBROOK et al (Dept of Surgery, Univ of Adelaide, Adelaide, Australia) *Gastroenterology* 62:1013-1019 (May) 1972

Ninety-nine $^{99m}$Tc-sulfur colloid $\gamma$ camera-imaged liver scans were examined by seven observers who decided whether or not a space-occupying lesion was present. On best performance, the average overall error rate was 20%. The seven observers had closely similar overall error rates. Because of the high rate of observer error in interpreting liver scans, they should be used to create an index of suspicion of abnormality rather than being regarded as diagnostic.

# INADVERTENT CHRONIC DIPHENYLHYDANTOIN INTOXICATION IN A TEENAGE GIRL

KLAUS-PETER HERBERG, M.D.*

Drug abuse, especially by teenagers, received wide attention during recent years. The adolescent struggles with the world to develop his independent self and finds illicit drugs tempting in many ways. The forbidden fruit!

In apparent contrast the teenager who already takes drugs for control of a chronic disease is prone not to take his medication. Patients with diabetes mellitus or epilepsy may suddenly refuse all treatment or fail to follow specific medical advice. Frequent emergency admissions because of diabetic keto-acidosis or status epilepticus in adolescence are more likely due to emotional problems rather than the underlying disease alone.

The following case report illustrates a somewhat different but still quite typical course of events, complicated by inadvertent and unrecognized intoxication with diphenylhydantoin (DPH-Dilantin$^R$).

A 16-year-old girl (J.L.J.) came to this Institute for neurological consultation in a wheelchair because of inability to walk for nine months. She was the first child of a 17-year-old mother, born after an uncomplicated pregnancy. Within one year the mother married the patient's stepfather and had six more children, all alive and well at the time of consultation. Our patient had a generalized convulsion around age two years associated with high fever secondary to viral infection. Her physical and mental development was normal. She was a good student earning average grades. A cerebral seizure disorder started at age 10 years. The attacks began with turning of the eyes and the head towards the right, followed by unconsciousness and a generalized tonic-clonic convulsion. Milder attacks consisted of rhythmical blinking of the eyes, drooling from the mouth while lips and tongue performed chewing motions. She was unresponsive to outside stimuli for about two minutes. Her subsequent confusion cleared within a short time.

About two such attacks occurred per month. Physical and neurological examination were normal, as were blood chemistry (BUN, electrolytes, blood sugar) and skull films. The EEG was abnormal because of generalized three cps spike and wave formations, either in short bursts or long runs activated by hyperventilation. Some isolated spikes were noted in both temporal areas. Epilepsy was diagnosed with both generalized tonic-clonic and temporal lobe seizures. DPH (Dilantin$^R$) was prescribed and 150 mg per day controlled the seizures for two years.

The patient, now 13 years old, stopped taking medication and suffered several generalized attacks each month. DPH was resumed at 300 mg per day and this dosage increased to a total of 500 mg over the following two years. Phenobarbital 120 mg was added. Despite this high amount of medication she continued to have weekly convulsions, sustaining burn injuries on the right arm and knee during one of them. No signs of intoxications such as nystagmus or ataxia of the limbs were ever noted. Irregular drug intake was suspected. At age 15 years, she attended summer camp for two weeks. The report of the child's camp experience reads in part: At first she appeared to be a most promising camper, though "very much in the throes of adolescence." She was the first to encourage the other girls to drop their shyness, liked to work in arts and crafts and enjoyed all camp activities. After one week, about mid-session, her behavior changed. At times she was an active person, participating in games and activities and having a good time. At other times she staggered around, saying that she could not see, and was belligerent in every way. She complained of poor appetite, upset stomach, continuous fatigue, frequent headaches, spells of dizziness, double vision and staggering gait. In contrast, she did not complain about pain from a badly skinned finger and a bump on the head. A physician was consulted but he could find no physical cause for her complaints. The nurse states: "I do not feel that she is or has been taking her medicine as she should."

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The many symptoms of physical distress appeared to her supervisors to be manifestations of her emotional problems. They seemed certain that much of her behavior represented sheer histrionics yet "there was something wrong somewhere to make her act so consistently." As time progressed the social worker began to question just how reality-oriented she really was. The counselor observed that she seemed to have an unnatural attraction for her stepfather. The agreement was reached that her behavior warranted an evaluation in a mental health clinic.

The primary physician saw her on the day of discharge from camp. Since the patient claimed that she had taken her medicine and was seizure-free for five months, the same amount of medication as before was continued (DPH 500 mg per day). During the following weeks the difficulties in walking progressed so that she had to use crutches. Her speech became very hard to understand because of slurred pronunciation. She often refused to eat and consequently was spoon fed by her mother. Eight weeks after the onset of the symptoms she was evaluated at a Mental Health Center. "She had to be assisted into the office as she had lost the use of her legs. This appeared similar to astasia-abasia but the legs were thrown more forward. She had some control over her legs when sitting and at least partial control when lying down. She was referred back for further examination to rule out the possibility of cerebral pathology being a factor in what appears to be either a conversion reaction or malingering."

The parents consulted two different physicians who both added further medication—Librium 30 mg and Mellaril 75 mg respectively, without achieving any improvement. Examination at nine weeks "revealed the lower extremities to be intact. She was able to move the legs on command, appeared to have the strength for walking but was unable to keep her balance." Nystagmus was absent. DPH was reduced step wise from 500 mg to 300 mg per day "with the thought that this ataxia may possibly be secondary to her Dilantin dosage." The mother noted a minimal improvement in her gait but no objective changes were seen. Three months after the onset of the symptoms, hospitalization was recommended. "The mother was ready to sign for this child to be put in the State Hospital and then all of a sudden the stepfather speaks up and says she shouldn't go and the mother won't sign unless he agrees." It was was suggested to investigate the home situation and the reasons why he did not want this child admitted. Someone noted previously that the patient had an unnatural attraction to her stepfather.

Nine months after the onset of her symptoms she was seen in this Institute. The medication consisted of DPH 300 mg and phenobarbital 120 mg per day. The now 16-year-old, alert and cooperative girl sat strapped into a wheelchair because of severe ataxia. It was impossible for her to sit unsupported or to stand. Ataxia of the limbs was less pronounced. One could hardly understand her speech because of dysarthria and uncontrolled volume. Blurring of vision correlated with wide pupils, slowly reactive to bright light and nystagmus on horizontal as well as vertical gaze. The muscle tone was reduced. No sensory abnormalities or signs of increased intracranial pressure were found. The EEG was again abnormal because of the previously noted three cps spike wave paroxysms, this time revealing an additional left post-frontal slow wave and spike focus. The entire background activity was slowed and dominated by five to six cps theta (as opposed to the normal eight cps alpha) frequencies. Chronic DPH-toxicity was diagnosed and both medications withdrawn step-wise while primidone (Mysoline) was introduced and increased gradually to 750 mg/day. Five weeks later she was still confined to a wheelchair but able to dress and feed herself. The nystagmus had disappeared while the severe truncal and less obvious limb ataxia were still present. Her speech had more of a scanning rather than a dysarthric quality. She had four mild seizures preceded for the first time by an aura. These occurred during the first two weeks of changeover in medication. The EEG paralleled the clinical improvement. The background activity was normalized, only a few paroxysmal waves remained from previously very active potentially epileptogenic discharges. The focal slowing in the left postfrontal region persisted.

Five weeks thereafter she began walking with assistance. She became independent of the wheelchair five months following DPH withdrawal after using it for about one year. Two years later she was still ataxic, speech scanning and explosive. She received home bound instruction but plans were made to return her to school. She had one seizure in two months and admitted that she had failed to take medication regularly.

## COMMENT:

The diagnosis and treatment of epilepsy in this case presented no major problem. Difficulties began when the patient returned at age 13 years with the recurrence of her seizures and the statement that she had not taken her medication. The dosage of the medication was increased to potentially toxic amounts, with questionable results on the seizure frequency. Common sense would predict that those who fail to take three, will not take five capsules either. She was sent to summer camp in an attempt to help her in the struggle of adolescence. Forced to take the medication, she developed a multitude of variably present symptoms. These were interpreted as another expression of her

psychological developmental problems. A pharmacological reason for her symptoms was overlooked in the absence of a physical cause and under the pressure of a psychiatrically oriented presentation. Trained to recognize diseases, we have to learn again that drugs too can cause symptoms. Three months after the onset chronic DPH intoxication was considered, but the drug not discontinued. This would have been possible since phenobarbital was taken in sufficient amounts to guard against status epilepticus.

Consequent action was called for at this point, both to prove the suspicion of intoxication and to prevent permanent disability. Determination of the DPH serum level[2] can be of great help in establishing the diagnosis and guiding subsequent treatment, especially in a case complicated by psychological and other management problems. Such serum levels are also helpful in cases of treatment failure[3] since unreliable drug intake is their likely cause. The acute intoxication is readily recognized, starting with blurred vision and nystagmus, often present on horizontal and vertical gaze, followed by ataxia, explosive cerebellar speech and the behavioral changes of acute toxic encephalopathy.[4,5] The chronic intoxication is usually of insidious onset and can occur at any time during long term treatment. Fluctuation is characteristic both in the subjective complaints such as gastric irritation, visual problems, dizziness, fatigue and the objective symptoms of truncal rather than appendicular ataxia. Nystagmus can be and frequently is absent. Slowly developing mental changes often dominate the clinical syndrome with loss of initiative, poor ability to concentrate or think, inebriated behavior and even frank psychoses.[6] Failure to obtain a reliable history of drug intake, illicit or according to medical advice, necessarily leads to misinterpretation of these symptoms as purely psychological in origin. The longer the state of clinical intoxication, the more likely is irreversable damage to the cerebellum to occur. Complete clinical recovery can be expected after one to three weeks of intoxication but is rather unlikely after 12 weeks.[7]

A challenging problem is presented by teenagers who refuse to take the prescribed medication. It is during early adolescence that they desperately try to establish themselves as persons independent from their parents but not different from their peers. Their sueeess depends partially on the intellectual capacity but even more so on the mental balance within themselves and their immediate family.

The child with a chronic disease has to overcome additional difficulties. The disease—be it epilepsy, cerebral palsy, diabetes mellitus, etc.—sets them apart, makes them different. They have seen parents, teachers, friends and strangers react to the disease, often with fear and terror. The medication they are forced to take reminds them three times a day that they are in a situation that appears hopeless. Their disease lends great power to the parents who tend to over-protect and restrict a chronically ill child, seemingly with good reason. One might have to spend considerable time with parents to give them assurance and a thorough understanding of the dangers of over-protection in order to help the patient. The adolescent who refuses previously successful treatment for a chronic disease signals that he is unable to cope with the situation. He can be expected to display hostility, rationalized as frustration about the failure of the doctors to help him, to provide him with a healthy body. One will have to be aware of the fact that he is overly concerned with himself, with his needs for acceptance as well as independence. Given a chance to talk, he may express his feelings, fears and thoughts, opening the way for an understanding relationship with his physician. The patient will get the feeling that his physician is concerned with him as a person, "really knows what he is doing" but leaves room for active partieipation.

I found it best to delegate some of the responsibilities for taking the medication to even the 10-12 year old pre-teenagers. It seems better to let them learn by experience what happens when they skip medication and to discuss the factors involved, rather than to try for complete seizure control by increasing the medication and thus risking intoxication. After the patient understands and accepts his

disease and its management, a more rigid regimen can be introduced.[8-11] A similar approach has been found useful in the management of the adolescent with diabetes mellitus and I quote: "That patient who has been given the best understanding of his disease in his early years—and therefore for whom it holds less mystery and fear—who feels he knows how to manage it, who has faith in and friendliness for his doctor, and who learned to accept reasonable discipline, rules and authority, will present the least problem in his adolescent years."[8]

## CONCLUSION

Exacerbation of previously well controlled seizures in early adolescence (12-15 years) requires thorough diagnostic evaluation but represents more likely a sign of emotional problems as opposed to changes in the underlying cerebral pathology. The primary treatment effort should be directed towards identification and resolution of the emotional difficulties, using the experience of increased seizure frequency. The most likely cause for the latter is noncompliance with the prescribed drug regimen. A serum level of the anticonvulsant involved can be of both diagnostic and therapeutic value. Children with epilepsy approaching adolescence should ideally be actively involved in their treatment. They should learn as early as possible—around age 10 to 12 years—to take care of their own medication and experience themselves the effects of "forgotten" medication. Diphenylhydantoin should not be used routinely in doses higher than 300 mg per day, except in definitely justified cases.[3] The risk of chronic intoxication resulting in permanent damage to cerebellar and intellectual functions is too high. The possibility of a drug induced encephalopathy has to be considered in all cases of behavioral changes—not only in teenagers—and a detailed drug history including non-prescription drugs should be obtained. This is of great importance when one considers treatment with medications. Otherwise one finds oneself treating symptoms of overmedication from one drug by just adding another one with its own toxic effects.

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# EPIDURAL HEMATOMA

## CORRELATIONS IN TRAUMATOLOGY

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### Scope of the Surgical Problem

Epidural hematoma, as well as subdural hematoma, intracerebral hemorrhage and cerebral laceration, remains one of the more serious surgical issues of trauma to the head. The traditional high mortality from epidural hematoma has been reduced significantly through more accurate diagnosis by means of angiography.[1] Further reduction of mortality has been achieved since the introduction of effective medication for the control of brain swelling. Notable favorable rates of survival have been observed in special situations such as the treatment of military combat casualties with non-penetrating trauma to the head.[2] Nevertheless, mortality remains high. In urban trauma centers, mortality after surgery may still be as high as 20-50 per cent, depending on the severity of the insult.[3,4] Improved survival as such correlates with the perpetuation of invalidism and vegetative functional states, a sociophilosophical issue with which competitive society has not come to terms.[5]

### Derangement of Structure and Function

DIDACTIC DEFINITIONS. Epidural hematoma is conventionally defined, especially for didactic purposes, as a collection of blood as a result of a hemorrhage from the middle cerebral artery which is ruptured by a fracture through the temporal bone. Diagnostic, if not pathognomonic, emphasis is placed upon the observation of a short, so-called lucid interval between the initial injury or loss of consciousness, the subsequent deterioration of the conscious state, and the development of more specific deficits. Descriptions then go on to point out, rather categorically, the differences between epidural and subdural hematomas. Epidural hemorrhage from an arterial source is said to be more brisk, thereby producing rapid expansion of the hematoma. The short, lucid interval reflects the delayed effect of the hematoma on the function of the brain which later becomes depressed and displaced. By contrast, subdural hemorrhage is said, due to its venous source, to be more indolent, resulting in slower effects on the compressed brain. This implies a longer interval between injury and recurrence of deterioration of the state of consciousness.

Finally, the impression is created that epidural hematoma can be removed by relatively unsophisticated means such as a burr hole or limited craniectomy, and that a dramatic cure may, more often than not, be anticipated, if only the surgeon intervenes swiftly enough.

REFLECTIONS IN WIDER CONTEXT. Such somewhat categorical and naive differentiations are insufficient. Only too often

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The opinions or assertions contained herein are those of the authors and are not to be construed as official or reflecting the views of the Navy Department or the Naval Service at large.

neither one of the two types of hemorrhage behave in this manner, nor do such rules provide assurance against the coexistence of both lesions, or for that matter, the additional association with traumatic intracerebral hemorrhage and brain swelling.

Even casual acquaintance with the ambient anatomic structures of the epidural and subdural spaces affords better understanding. Epidural hemorrhage can, in addition to a large branch of the middle meningeal artery, emanate from a diploic or emissary vessel, a meningeal vein, a cortical vein passing between dural layers on its course to a venous sinus, a venous "lake," a Pacchionian granulation, or a dural sinus.

A subdural hemorrhage can originate from a cortical artery or a meningeal artery, as well as from its usual venous sources.

These reflections explain why epidural hemorrhage can be slow. The small arterial or venous supply results in a slow accumulation of blood producing a long lucid interval, or no recurrent deterioration of the state of consciousness at all.

Subdural hemorrhage, due to a forceful arterial or large venous source, can be extremely rapid in expansion causing a short lucid period or rapid deterioration without intervening lucidity.

In the same context, it is understood that epidural hematomas can be chronic and much less dangerous than some subdural hematomas. Anatomic considerations also suggest the frequent association of several lesions inclusive of intracerebral hematoma,[4] which can mimic on clinical grounds alone, both epidural and subdural hematomas. The vicinity of the subarachnoid space explains why subarachnoid hemorrhage may or may not be observed in any of these conditions, and why it has no bearing on the management.

Besides fast and slow expansion of hematomas in the above sense, consideration of the anatomic disposition of structures makes it obvious why fractures can occur in locations other than the temporal region, and why they can thus damage vascular channels, both venous and arterial, other than the meningeal artery or its branches. Fractures are often too



**Figure 1. This angiographic antero-posterior view shows little more than a shift of the midline structures. On this view the diagnosis of epidural hematoma could easily be missed.**

obscure to be seen by radiography.[6,1]

While it is true that there is a preponderance of epidural hematomas in the temporoparietal region, other less usual locations are anticipated. Of lesser prevalence are those which occur in a suprasagittal, inter-hemispheric, suboccipital, or bilateral location.[7] Prevalence of one location or another appears to vary widely in different parts of the world, supposedly reflecting the local modes of trauma.[8,9,10,11]

**Illustrative Case.** Nuyen T., aged 51, was admitted to the Naval Support Activity, DaNang, Vietnam, in December, 1969, after being trapped in a bunker for an unknown period of time. When he was found buried in earth and wooden debris, there was no outward evidence of trauma. His drowsiness was initially ascribed to partial suffocation. However, his lethargy persisted, together with minimal weakness of the left extremities.

The most obvious radiographic abnormalities (Figures 1-3) were a coronal fracture-separation on plain skull roentgenograms and a shift of midline structures on carotid angiography. On the lateral view, the



**Figure 2. The lateral view demonstrates the coronal fracture separation, the magnitude of the lesion, and the downward displacement of the arterial tree. Epidural hematoma is suspected.**

unusual length of separation of the superior sagittal sinus from the vault of the skull was observed. The pericallosal branches of the anterior cerebral artery were depressed. The other arteries and veins "sagged" genrally but there was no obstruction of any channel, nor extravasation of contrast material.

A tent-like effect was observed as two halves of the dura on each side of the sinus draped themselves over the depressed brain. One saw that the implied clot was greater on the right than on the left.

This study afforded considerable detail about the extent and configuration of the lesion to be disclosed at surgery. From the clinical point of view, given a patient with relatively little disability, one could postulate that there was ample, potential compensatory space for the brain. In a yonger person, such a sizeable collection is likely to have been fatal even if it were much smaller, since compensatory availability is less likely to exist.[6]

At operation by osteoplastic craniotomy, an epidural hematoma was removed, measuring about 90 cc. It was liquefied in parts and showed signs of organization in others. There was no brain swelling. Recovery was complete with the patient returning to his village twelve days later.

COMMENT. The case was not "typical" in its manifestations. There was no temporal fracture. Bleeding probably occurred from the area of coronal fracture. Diagnosis could have been missed on the antero-posterior view alone. The location was one less frequently encountered. The magnitude of the clot was extreme. Not only did the clot show signs of chronicity, but also, there was no brain swelling. Craniotomy was necessary for removal rather than burr holes or limited craniectomy. The clinical features could easily have been produced by other forms of intracerebral bleeding, if not cerebral edema alone, and there was little functional impairment.

Such "atypical" lesions of this type have long been known. As a matter of historical interest, the first case description was cited by Stevenson, Brown and Hoyt, who related the incident of a dragoon that was wounded in the Battle of Salamanca (1812) by a musket ball in the body, which caused him to fall from his horse, injuring his head.[12] The angiographic documentation of suprasagittal hematomas was first accomplished by Wichbom[13] and since then, numerous interesting cases have been encountered.[12,14]

### Significant Implications

The degree of functional impairment due to intracranial hemorrhage, inclusive of epidural hematomas, may be much out of proportion to the magnitude of the clot. A varied array of acute and chronic manifestations produced by lesions of different dimensions and locations can be observed. Seeming incongruities and discrepancies between physical cause and functional effect may be explained as repercussions of less tangible factors such as vascular compromise, brain swelling and general-




**Figure 3. This lateral view emphasizes the length of separation of the superior saggittal sinus from the vault of the skull and the distortion of the venous channels. Only an epidural mass could produce this appearance.**

ized cerebral dysfunction. These reflect the general response of traumatized brain rather than an obvious relationship between anatomic disposition and magnitude of the lesion, and the observable effect.

Generally, these considerations imply that strict adherence to classical conceptions of head trauma is management and prognosis can impart a false sense of security by underestimation, or an exaggerated sense of doom by overestimation of the anticipated derangements of function. Therapeutic pursuits must be guided by conceptions less sterotyped than those of conventional didacticism. Anatomic pathology, radiological features, surgical-technical implication, and observation of functional impairment must be taken in correlative context. The reduction of traumatologic management to a formula is inappropriate.

## Summary

This review describes the manifestations of epidural hematoma in the fuller context of structural and functional derangement. An atypical case of bifrontal suprasagittal hematoma is included for emphasis on significant traumatologic correlations.

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# President's Page



One is still impressed with the amount of criticism of the medical profession by the public at large. As stated in previous editorials, much of the criticism is based on inaccurate or improperly interpreted data. Unfortunately, some of the criticism is represented by unproven accusations such as happened recently on a broadcast in Los Angeles. A question was phrased in such a manner as to imply that the activities of the County Medical Association were mainly geared to protecting high fees charged by doctors. Of course, such is not the case. Because of the activities of the strong opponents of the medical profession and of the methods of rendition of medical care in use today, it is essential that we strive for more unity and unanimity within our profession. We must seek to attain a professional goal for the effective leadership of organized medicine in all matters pertaining to personal and public health and medical care. This means that we should seek more than ever to avert the imposition of socialism in medicine on the public. Socialism is the opposite of free enterprise. Socialism is already a proven failure in Great Britain, which has certainly suffered severe reverses since World War II. In contrast, West Germany, following World War II, chose the capitalistic method of economic recovery and today it certainly exhibits all signs of a sound recovery. Capitalism and free enterprise are synonymous. Free enterprise is the system that has afforded the American people very high standards of living compared to the rest of the world and equally high standards of medical practice and medical care. This means that the medical profession must continue to maintain free enterprise in the provision of medical care for the public. This, in turn, means that competent physicians must remain free to exercise their individual judgment, knowledge, experience and skills, without the imposition of government interference in its administration or practice.

Edward F. Parker, M. D.
President

**Prompt relief of pain is a lot of what the practice of medicine is all about... East or West.**

In much of the Far East, the analgesic efficacy of Empirin® Compound with Codeine would probably be measured against acupuncture, an ancient and traditional therapeutic system.

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orry, frustration, job pressure—all up excessive vagal currents in tients with peptic ulcer.

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By moderating excessive vagal currents Pro-Banthine relieves spasm, acid burn and pain. By reducing gastric motility Pro-Banthine also prolongs the activity of antacids.

*Indications:* Pro-Banthine is effective as adjunctive therapy in the treatment of peptic ulcer. Dosage must be adjusted to the individual.

*Contraindications:* Glaucoma, obstructive disease of the gastrointestinal tract, obstructive uropathy, intestinal atony, toxic megacolon, hiatal hernia associated with reflex esophagitis or unstable cardiovascular adjustment in acute hemorrhage.

*Warnings:* Patients with severe cardiac disease should be given this medication with caution. Fever and possibly heat stroke may occur due to anhidrosis.

In theory a curare-like action may occur, with possible loss of voluntary muscle control. For such patients prompt and continuing artificial respiration should be applied until the drug effect has been exhausted.

Diarrhea in an ileostomy patient may indicate obstruction, and this possibility should be considered before administering Pro-Banthine.

*Precautions:* Since varying degrees of urinary hesitancy may be evidenced by elderly males with prostatic hypertrophy, such patients should be advised to micturate at the time of taking the medication.

Overdosage should be avoided in patients severely ill with ulcerative colitis.

*Adverse Reactions:* Varying degrees of drying of salivary secretions may occur as well as mydriasis and blurred vision. In addition the following adverse reactions have been reported: nervousness, drowsiness, dizziness, insomnia, headache, loss of the sense of taste, nausea, vomiting, constipation, impotence and allergic dermatitis.

*Dosage and Administration:* The recommended daily dosage for adult oral therapy is one 15-mg. tablet with meals and two at bedtime. Subsequent adjustment to the patient's requirements and tolerance must be made.

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# Editorial

### Passing the Colors

Last month an impressive ceremony at Fort Jackson marked the change in commanding officers at that institution. Amidst great pomp and panoply, the retiring commander took up the colors, passed the colors to the big chief, the area commander, who then passed the colors to the new commander for his safekeeping. In this symbolic act much emotional feeling and much personal power were acknowledged.

Though not nearly as histrionic, a similar thing has occurred in the life of *The Journal of the South Carolina Medical Association.* Buckland Thomas accepted a professional position in another state, necessitating his relinquishing Editorship of *The Journal.* So he then passed the colors to Dr. Joseph Waring, supreme commander, editor emeritus, who gracefully and graciously held the colors for three months while a new editor could be selected and briefly introduced to the job. With this issue and with this editorial, the colors fall into new and untried hands. These new hands will try earnestly to hold the colors high—to the heights they achieved under the excellent years of our emeritus editor, Dr. Waring.

Dr. Waring began his tenure as Editor of *The Journal* on January, 1954, and continued until August, 1970, when he began his emeritus status. He was called back into the service of his Association to edit the June, July, and August, 1972, issues and did so with his usual elan.

During Dr. Waring's years as Editor, *The Journal of the South Carolina Medical Association* achieved status as a sort of regional *New England Journal of Medicine.* This was enhanced by a close relationship with the Medical University of South Carolina, from which most of the scientific material originated. We hope this relationship between *The Journal* and the Medical University will endure and flourish. Without scientific material from the Medical University, *The Journal* would certainly wither. But we feel other areas of South Carolina have scientific experiences that should be brought to the attention of our readership.

We pleadingly solicit clinical and/or laboratory observations from all professions and all localities in the state. We hope out-of-state authors will see fit to submit material for publication. Without adequate scientific material to select from, the high quality of *The Journal* cannot be maintained.

I would like to end this first editorial with a personal note of thanks to Dr. Joe Waring for his careful indoctrination of this novice editor. But he did even more! Originally Dr. Waring agreed to edit the June and July issues to allow Council the necessary time to fill the Editor's chair. On my personal request, he took on the additional chore of putting out the August issue to allow me time to get my feet on the ground before actually taking over. For this I will always be grateful.

———

The Journal of the South Carolina Medical Association

## 50 YEARS AGO

### September, 1922

Editorial comment was made on the success of the Pediatric Seminar in Saluda inaugurated by Drs. T. L. Smith and F. H. Richardson. The State Board of Health was beginning to focus on infant mortality and requested all county societies to appoint special committees on child welfare.

# SOUTH CAROLINA MEDICAL ASSOCIATION

## MINUTES OF COUNCIL

Council of the South Carolina Medical Association met at headquarters of Blue Cross-Blue Shield at 2:30 p.m. on June 28, 1972.

*Present:* Dr. Edward F. Parker, President; Dr. Waitus O. Tanner, Chairman; Dr. Kenneth N. Owens, Vice President; Dr. Harold P. Hope, President-Elect; Dr. D. Strother Pope, Secretary; Dr. J. Howard Stokes, Treasurer; Mr. M. L. Meadors, Executive Secretary.

*Also:* Dr. A. Richard Johnston, Dr. William A. Klauber, Dr. Donald G. Kilgore, Jr., Dr. Halsted M. Stone, Dr. John D. Gilland, Dr. Michael Holmes, Dr. Randolph Smoak, Dr. J. Hal Jameson, Dr. Thomas Parker, Dr. Harrison Peeples, Dr. John C. Hawk, Jr., Dr. C. Tucker Weston, Mr. Richard Pugh, Dr. Ben N. Miller, Dr. J. I. Waring, and Dr. William H. Hunter.

Minutes of the May 14, 15 and 17th meetings, as amended, were approved.

Dr. Tanner emphasized the purpose of Council, citing Section 8, Chapter VII, of the Constitution and By-Laws. He urged each and every councilor to pay more attention to problems in his respective district.

Dr. Tanner pointed out the need for new members, reminding Council that if the membership is increased to 2,000, SCMA will have another delegate and vote in AMA, thereby having more impact at AMA meetings. He stated that SCMA is under-capitalized and under-financed. There are two ways to remedy this—increase dues and get new members. SCMA is near the bottom in the amount of dues charged. There are very few associations who charge less or the same but there are many who charge more. Dr. Tanner urged that if the 1975 deadline set by the House of Delegates to move into the permanent home is to be met, that committee will have to hustle. It is hoped that the thrust from the office of the Executive Secretary and Assistant Executive Secretary will be forceful. He also stated that SCMA has come far in organizing the Foundation, it is hoped, for the best interest of the medical profession.

It was Dr. Tanner's observation that when the House of Delegates is not in session and the Council is not in session, there are a great many things that go on which involve a statement of policy from organized medicine in S. C. At such times, we have a vacuum. The past Chairman did a great job in this respect, but it might be advisable to have some smaller group designated to give on-the-spot policy statements.

Dr. Tanner then introduced Dr. Edward F. Parker, the President.

Dr. Parker thanked Council for the office of President and reported on his attendance at the AMA Convention. He was most impressed with the seriousness of intent, great amount of work and the diligence of our representatives. It is Dr. Parker's opinion that the SCMA was well served at the Convention. He also stated that the Student Health Program, formerly financed by OEO, was discontinued this year—the notice that they would not do so coming only three days before the Convention. The SAMA applied to AMA for $45,000 but AMA would not approve the request without the approval of the South Carolina Delegation. The Delegation did not feel that they had the authority to approve the application but did notify AMA that they would not disapprove same. It is not known at this time whether the application was granted or not.

Dr. Parker moved that copies of the application of the SAMA Health Project be sent to all members. Voted on and carried.

Dr. Hawk suggested that if any member of Council hears about any grant which might be available or useful, please let Council know.

It was Dr. Parker's thought that it might be well for Council to obtain the services of

some public relations firm or individual to tell SCMA how to put its best foot forward. It might be well to find out what such service would cost.

A list of Committees of the House of Delegates follows the minutes on page 364.

Dr. Stone moved that the annual report of each committee chairman contain a list of the members who attended the meetings.

Dr. Weston moved that the above motion be amended by adding "such reports to be submitted to the Speaker of the House of Delegates 60 days prior to the annual meeting." Motion voted on and carried.

Dr. Pope reported that all nominations made by the House of Delegates had been accepted by the Governor.

Dr. Edward Kimbrough, Columbia, was elected Editor of the *Journal*.

Dr. Gilland nominated Dr. L. Brad Courtney, Conway, to replace Dr. Charles R. May, Bennettsville, on RAC. Motion voted on and carried.

Dr. Hunter remarked that due to the work of Council, the RMP program is going much more smoothly in South Carolina than in most other states and it is his opinion that Council keep up its good work in appointing members who will attend and participate in these important meetings.

**TERMS END—MAY, 1973**

SCMA Medical Advisory Committee to the SC Vocational Rehabilitation Department:

General Surgery — Dr. J. Kilgo Webb, Greenville (Chairman)

Internal Medicine — Dr. Richard M. Christian, Greenwood

Neurology — Dr. Albert F. Aiken, Charleston

Ophthalmology — Dr. J. Howard Stokes, Florence

**TERMS END—MAY, 1974**

General Surgery — Dr. Harry J. Metropol, Columbia

Otolaryngology — Dr. A. Frank Weir, Jr., Spartanburg

Psychiatry — Dr. Robert N. Milling, Columbia

**TERMS END—MAY, 1975**

Anesthesiology — Dr. Roy E. Hudgens, Jr., Florence

General Practice — Dr. Malcolm L. Marion, Chester

Internal Medicine — Dr. Charles P. Summerall, III, Charleston

Orthopedics — Dr. Roland M. Knight, Greenville

Urology — Dr. Joseph H. Miller, III, Columbia

State Health Officer — Dr. E. Kenneth Aycock, Columbia

State Medical Consultant — Dr. Ben N. Miller, Columbia

Dr. Gilland reported on a meeting he attended in Atlanta which was a pilot Southeastern Regional Medical Conference.

Dr. Hawk recommended that the Foundation purchase the publication, Health Care Evaluation.

Dr. Owens reported that the Membership Committee will send out letters to all nonmembers of the medical profession urging them to join the Association and also a letter to all residents and interns. Council endorsed the proposed letter to non-member doctors. Council will be furnished with names of doctors in each Councilor's district who are not members of the Association.

Dr. Smoak discussed the advisability of having election of officers at the annual meeting at a time when more members are present. Dr. Edward Parker moved that the election of officers be held at an earlier hour on the last day.

Dr. Hawk moved that Dr. Parker's motion be amended by adding that the Speaker of the House be given more latitude in deciding the time for nominations and balloting. Motion voted on and carried.

Dr. Smoak moved that whereas the SCMA researched and started the Blue Shield of South Carolina from its birth and supported it through its developing and precarious years and, whereas, Blue Cross-Blue Shield of South Carolina has now matured and is independent from the SCMA, and, whereas, the Blue Cross-Blue Shield of South Carolina will need our support but will not need to be subsidized by the SCMA, Therefore, be it resolved that SCMA pursue a positive course to encourage Blue Shield of South Carolina to change the system of closed panel of participating physicians to be replaced by a less rigid system

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*Indications:* Stable adult diabetes mellitus; sulfonylurea failures, primary and secondary; adjunct to insulin therapy of unstable diabetes mellitus.
*Contraindications:* Diabetes mellitus that can be regulated by diet alone; juvenile diabetes mellitus that is uncomplicated and well regulated on insulin; acute complications of diabetes mellitus (metabolic acidosis, coma, infection, gangrene); during or immediately after surgery where insulin is indispensable; severe hepatic disease; renal disease with uremia; cardiovascular collapse (shock); after disease states associated with hypoxemia
*Warnings:* Use during pregnancy is to be avoided.
*Precautions:* 1. *Starvation Ketosis:* This must be differentiated from "insulin lack" ketosis and is characterized by ketonuria which, in spite of relatively normal blood and urine sugar, may result from excessive phenformin therapy, excessive insulin reduction, or insufficient carbohydrate intake. Adjust insulin dosage, lower phenformin dosage, or supply carbohydrates to alleviate this state. **Do not give insulin without first checking blood and urine sugar.**
2. *Lactic Acidosis:* This drug is not recommended

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You're considering oral therapy for a new patient. DBI-TD or a sulfonylurea. Which?

Both lower blood sugar. But here's why DBI-TD, which is not a sulfonylurea, may be important to the dieting diabetic.

- Sulfonylureas promote release of insulin.
- Insulin is lipogenic and helps transport glucose into adipose tissue.
- Overweight patients frequently have normal or high levels of endogenous insulin.
- DBI-TD lowers blood sugar without stimulating insulin secretion from the pancreas.

Usual dosage: one 50-mg. capsule with breakfast may be effective, or a second capsule may be given with the evening meal.

## DBI-TD® Geigy
phenformin HCl

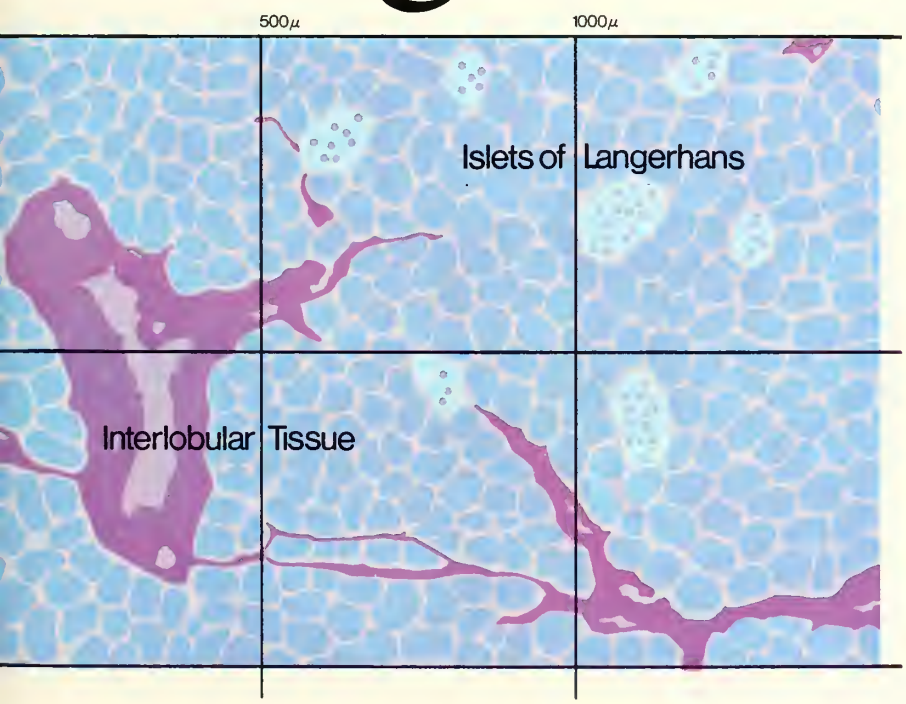
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ntiate lactic acidosis from ketoacidosis,
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also be made of electrolytes, pH, and the
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*Adverse Reactions:* Principally gastrointestinal; unpleasant metallic taste, continuing to anorexia, nausea and, less frequently, vomiting and diarrhea. Reduce dosage at first sign of these symptoms. In case of vomiting, the drug should be immediately withdrawn. Although rare, urticaria has been reported, as have gastrointestinal symtoms such as anorexia, nausea and vomiting following excessive alcohol intake.
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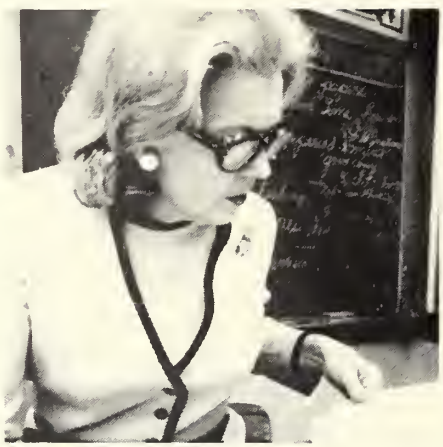
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# Literary Hemorrhoids

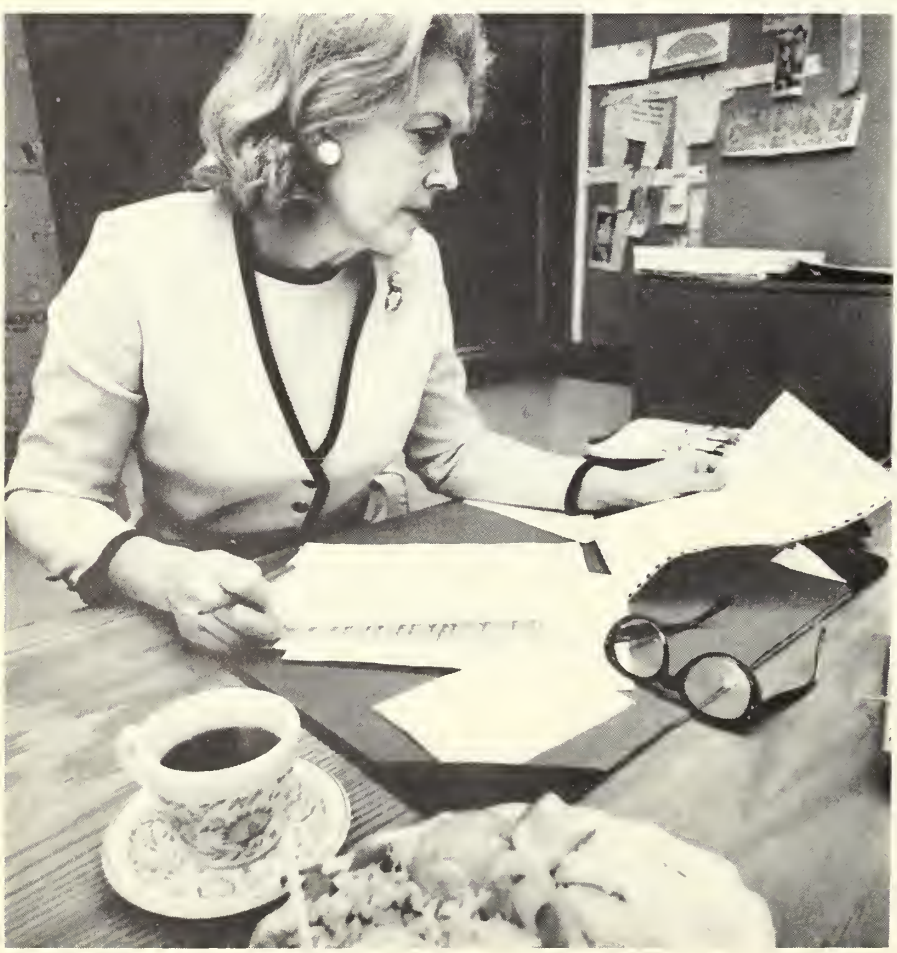
Mrs. S.R., 47, high school English teacher. A history of anorectal pain and burning of several years' duration. On and off weight reducing diets, the insufficient bulk of which has aggravated a chronic constipation problem. Subsequent straining at stool has precipitated an acute episode of internal-external hemorrhoids.



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to help relieve the pain, itching, burning associated with this and similar anorectal conditions

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**Anusol HC®** hemorrhoidal suppositories with hydrocortisone acetate

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**Precaution** Prolonged or excessive use of Anusol-HC might produce systemic corticosteroid effects. Symptomatic relief should not delay definitive diagnosis or treatment.

**Dosage and Administration** Anusol-HC: One suppository in the morning and one at bedtime for 3 to 6 days or until the inflammation subsides. Regular Anusol: One suppository in the morning, one at bedtime and one immediately following each evacuation.

And for long-term patient comfort...recommend Anusol® hemorrhoidal suppositories. Each suppository contains the ingredients of Anusol-HC without the hydrocortisone.

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which will allow assignment of benefits also. Motion voted on and carried.

Dr. Pope moved that no member of the Association will serve on the Board of Directors of Blue Shield as a representative of the Association. Motion voted on and carried.

Dr. Jameson moved that Mr. Meadors meet with Council for Blue Shield in order to co-sponsor a Bill to void the Statute now standing with reference to the nomination of a member of the Board of Directors of Blue Shield by SCMA. After much discussion, motion voted on and carried.

Dr. Tanner read a letter from Dr. D. Lamar Lee, Medical Director of the Saunders Memorial Hospital, criticizing Mr. Meadors' civic activities in behalf of the McLeod Memorial Hospital.

Mr. Meadors explained that at no time was the SCMA mentioned in connection with the application for the cobalt unit nor was his position with SCMA ever mentioned.

Dr. Kilgore moved that the letter be received as information. Motion voted on and carried.

Dr. Smoak moved that the letter be acknowledged and Mr. Meadors cleared of any conflict of interest. Motion voted on and carried.

Dr. Pope reported that there is a bill in Legislature at this time to pay the nurses who manned the First Aid Station the sum of $1200 each. Dr. Pope assured members of both Houses from Richland County that no such remuneration was expected nor was this action sponsored by SCMA.

Dr. Jameson stated that Blue Shield is starting a trial pre-hospital testing program in the Tuomey Hospital on July 15.

Beginning July 1, 1972, Blue Cross-Blue Shield is underwriting the insurance for the state employees. What effect this will have on the feasibility of HMO is not known.

Dr. Tanner pointed out that there was a feeling all along that the state would not go along with HMO; however, SCMA did agree to cooperate with the feasibility study.

Dr. Kilgore moved that residents, students and internes be included in membership of SOCPAC at a nominal fee. Motion voted on and carried.

Dr. Weston gave the report of the Permanent Home Committee and asked Council's advice on the shape of the property to be purchased, whether square or rectangular. Dr. Hawk moved that the Permanent Home Committee be authorized to acquire the most beneficial plot. Motion voted on and carried.

The terms of the payment are $8,000 to $10,000 down and the balance in 1973 without penalty. Dr. Hawk amended his motion to empower the President and Secretary to execute the mortgage. Voted on and carried.

Dr. Edward Parker stated that he had received a letter from Aiken County for approval of an application for two physicians from the Physicians Health Corps. Dr. Stone moved that the letter be referred to the Aiken County Medical Society with the request that the Society's recommendation be presented at the next meeting of Council. Motion voted on and carried.

Dr. Parker also read from a letter from the Pickens County Medical Society objecting to statements being enclosed when claims are paid by insurance companies, said statements being misconstrued by some patients. It was stated that AMA has passed a Resolution concerning this practice which will be forthcoming. Dr. Tanner moved that Dr. Parker answer this letter stating that AMA will hopefully take care of this matter better than SCMA could and that the Insurance Commissioner be furnished a copy of the letter. Motion voted on and carried.

Dr. Hope read a letter from Dr. McCord inviting SCMA to hold the 1975 convention in Charleston, which year will be the 150th anniversary of the Medical University. Dr. Pope moved that it be received as information at this time. Voted on and carried.

Mr. Meadors reported on the Physician's Assistants Bill. The Optometrists have proposed an amendment to the Bill which has placed it on the contest list. It is Mr. Meadors' opinion that it might be better to let it stay as is for the time being. Dr. Holmes moved that Mr. Meadors' recommendation be followed. Motion voted on and carried.

Dr. Thomas Parker gave a complete and comprehensive report on the AMA convention and stated that he had given the Execu-

tive Secretary a written report.

Dr. Holmes moved that Dr. John Hawk be recommended by Council for the Committee on Private Practice of AMA. Motion voted on and carried.

Dr. Kilgore moved that Dr. C. Tucker Weston be recommended by Council for AMPAC on AMA. Motion voted on and carried.

Meeting adjourned.

D. STROTHER POPE, M.D.
Secretary

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## MINUTES OF THE FOUNDATION

Columbia, S. C. June 28, 1972

The Foundation of the SCMA met at the Headquarters of Blue Cross-Blue Shield, Columbia, S. C., immediately following the adjournment of the Council Meeting.

*Present:* Dr. John D. Gilland, President; Dr. Halsted Stone, Vice-President, Dr. D. Strother Pope, Secretary-Treasurer, and Mr. M. L. Meadors, Executive Director.

*Also:* Dr. Edward F. Parker, Dr. Waitus O. Tanner, Dr. Kenneth N. Owens, Dr. J. Howard Stokes, Dr. A. Richard Johnston, Dr. William A. Klauber, Dr. Donald G. Kilgore, Jr., Dr. Michael Holmes, Dr. Randolph Smoak, Dr. J. Hal Jameson, Dr. Thomas Parker, Dr. Harrison Peeples, Dr. John C. Hawk, Jr., Dr. C. Tucker Weston, Dr. William H. Hunter and Mr. Richard Pugh.

The meeting was called to order by the President, Dr. Gilland.

Minutes of the May 14th meeting were approved.

Dr. Gilland announced that the federal grant of $10,500 applied for had been received.

Dr. Gilland stated that he had called to see Dr. Ellis, the Commissioner of Social Services, but, in his absence, he contacted Mr. Robert Carter, Deputy Commissioner, and offered the services of the Foundation with particular respect to the Peer Review Committee. Mr. Carter informed Dr. Gilland that the plans at this time were to put all claims under Dr. Thomas Leslie's Department and not to use Peer Review at all.

Dr. Tanner moved that the Executive Committee of the Foundation for this year be the same—Dr. Gilland, President
Dr. Stone, Vice President
Dr. Pope, Secretary and Treasurer
Dr. Waitus Tanner, Chairman of Council
Mr. M. L. Meadors, Executive Director
Voted on and carried.

Dr. Tanner moved that the Peer Review Committee have a dual function and also act as the Peer Review Committee for the Foundation. Motion voted on and carried.

Dr. Stone moved that the Foundation join the American Association of Foundations. Voted on and carried.

Mr. Meadors announced that there would be a meeting of the American Association of Foundations for Medical Care at Sea Island, Georgia, August 26-28, 1972, and asked those wishing to attend to let him know so he could make reservations.

Meeting adjourned.

D. STROTHER POPE, M.D.
Secretary

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*Amen To The Wall*

On the wall of the children's ward at the London Hospital hangs a prayer by Sir Robert Hutchinson:

From inability to let well alone:
from too much zeal for the new
and contempt for what is old:
from putting knowledge before wisdom,
science before art, and cleverness before
common sense,
from treating patients as cases, and from
making the cure of the disease more
grevious than the endurance of the same,
Good Lord, deliver us.

# COMMITTEES OF THE HOUSE OF DELEGATES

1972 - 1973

**COMMITTEE ON SCIENTIFIC PROGRAM:**

| | | | |
|---|---|---|---|
| Dr. M. Gordon Howle, Chairman | 101 E. North Street | Greenville | 1972-1975 |
| Dr. Andrew H. Hursey | P. O. Box 518 | Hartsville | 1970-1973 |
| Dr. Walter J. Roberts, Jr. | 2753 Laurel Street | Columbia | 1971-1974 |
| Dr. Lucien E. Brailsford | 850 N. Church Street | Spartanburg | 1971-1974 |
| Dr. Joseph C. Ross | University Hospital | Charleston | 1971-1974 |

(The President and Secretary are ex officio members of this committee)

**COMMITTEE ON LEGISLATIVE ACTIVITIES:**

| | | | |
|---|---|---|---|
| Dr. Falls L. Harris | 607 Arlington Ave. | Greenville | 1972-1975 |
| Dr. W. L. Young | P. O. Box 127 | Hampton | 1972-1975 |
| Dr. Dexter B. Rogers | 517 West Main Street | Easley | 1970-1973 Reappt. |
| Dr. D. Strother Pope | 1116 Henderson Street | Columbia | 1970-1973 Reappt. |
| Dr. Leonard W. Douglas | Anderson Street | Belton | 1970-1973 |
| Dr. Clay W. Evatt, Jr. | 91 Rutledge Avenue | Charleston | 1971-1974 |
| Dr. George F. West | 507 Walnut Street | Camden | 1971-1974 |

(Dr. Donald G. Kilgore, Jr., will serve in an advisory capacity)

**Sub-Committee:**

**Committee on Coroners - Medical Examiners**

**COMMITTEE ON COOPERATIVE ACTIVITIES:**

| | | | |
|---|---|---|---|
| Dr. J. Anthony White | Fleetwood Drive | Easley | 1972-1975 Reappt. |
| Dr. S. Perry Davis | P. O. Box 68 | Pinewood | 1972-1975 |
| Dr. James G. Johnson | 870 Holly St., NE | Orangeburg | 1972-1975 |
| Dr. S. Hunter Rentz | 1701 St. Julian Place | Columbia | 1970-1973 |
| Dr. William C. Cantey | 1840 Hampton Street | Columbia | 1970-1973 Reappt. |
| Dr. Stephen A. Greenberg | 234 S. Dargan Street | Florence | 1971-1974 |
| Dr. Daggett O. Royals | 9-11 Medical Court | Greenville | 1971-1974 |

**Sub-Committees:**

**Advisory Committee to the Department of Public Welfare**
**Committee on Alcoholsim and Drug Addiction**
**Committee on Religion and Medicine**
**Advisory Committee to Vocational Rehabilitation**
**Committee on Medical Aspects of Sports**
**Advisory Committee to the Woman's Auxiliary**
**Advisory Committee to Crippled Children's Society**
**Committee on Liaison with Allied Professions**
**Committee on Eye Bank**
**Committee on Mental Retardation**

**COMMITTEE ON MEDICAL EDUCATION:**

| | | | |
|---|---|---|---|
| Dr. John W. Brown | 2719 Middleburg Dr. | Columbia | 1972-1975 |
| Dr. Laurie N. Ervin | 24 Vardry St. | Greenville | 1972-1975 |
| Dr. Joel W. Wyman | 309 E. Greenville St. | Anderson | 1972-1975 Reappt. |
| Dr. William A. Klauber | Self Memorial Hospital | Greenwood | 1970-1973 Reappt. |

| | | | |
|---|---|---|---|
| Dr. C. Edward Floyd | 515 S. Dargan Street | Florence | 1971-1974 |
| Dr. Robert H. Burley | 316 College Avenue | Clemson | 1971-1974 |
| Dr. Hiram B. Curry | Medical University Hosp. | Charleston | 1971-1974 |

**Sub-Committee:**

**Committee on Careers in Medicine**

**COMMITTEE ON MEDICAL SERVICES:**

| | | | |
|---|---|---|---|
| Dr. Harold W. Moody | 975 N. Church Street | Spartanburg | 1972-1975 Reappt. |
| Dr. Rion M. Rutledge | 1317 Ebenezer Road | Rock Hill | 1972-1975 Reappt. |
| Dr. Samuel M. Witherspoon | 1-E Ashley House | Charleston | 1972-1975 |
| Dr. Edmund R. Taylor | 1840 Hampton Street | Columbia | 1970-1973 |
| Dr. Loren F. Parmley, Jr. | General Hospital | Spartanburg | 1970-1973 |
| Dr. S. Birnie Johnson | 595 Carolina Avenue, NE | Orangeburg | 1971-1974 Reappt. |
| Dr. Guy C. Heyl, Jr. | 525 Richland Avenue, West | Aiken | 1971-1974 Reappt. |

**Sub-Committees:**

**Committee on Emergency Medical Care:**

| | | |
|---|---|---|
| Dr. Charles D. Riddle, Jr. | 9 Medical Court | Greenville |
| Dr. Max S. Rittenbury | University Hospital | Charleston |
| Dr. Edward C. O'Bryan, Jr. | 376 West Palmetto St. | Florence |
| Dr. Emmett M. Lunceford, Jr. | 2709 Laurel Street | Columbia |

**Committee on Insurance Program:**

| | | |
|---|---|---|
| Dr. Jennings K. Owens, Jr. | 111 Clyde Street | Bennettsville |

**Committee on Accident Prevention**

**COMMITTEE ON MENTAL HEALTH:**

| | | | |
|---|---|---|---|
| Dr. W. B. Newton, Jr. | 315 Calhoun Street | Charleston | 1972-1975 |
| Dr. Archie M. Rabon | 610 Pendleton St. | Greenville | 1972-1975 |
| Dr. Karl V. Doskoeil | S. C. State Hospital | Columbia | 1972-1975 |
| Dr. R. E. Mellette, Jr. | Medical University Hospital | Charleston | 1970-1973 Reappt. |
| Dr. R. Bruce Ford | Pinewood Mall | Spartanburg | 1971-1974 |
| Dr. John W. Blanton, Jr. | 275 Calhoun Street | Charleston | 1971-1974 |
| Dr. Joe E. Freed | Hall Psychiatric Institute | Columbia | 1971-1974 |

**Sub-Committee:**

**Committee to work with Government Agencies on Mental Retardation**

**COMMITTEE ON PUBLIC RELATIONS:**

| | | | |
|---|---|---|---|
| Dr. William S. Brockington | Medical Center | Greenwood | 1972-1975 |
| Dr. W. Wyman King, Jr. | 2306 Harrington Street | Newberry | 1972-1975 Reappt. |
| Dr. John M. Preston | 1221 Gregg Street | Columbia | 1972-1975 Reappt. |
| Dr. Joseph I. Waring | 80 Barre Street | Charleston | 1970-1973 Reappt. |
| Dr. Edward E. Kimbrough | 2709 Laurel Street | Columbia | 1972-1975 |
| Dr. H. Biemann Othersen, Jr. | Medical University Hospital | Charleston | 1971-1974 Reappt. |
| Dr. Lane E. Mays | N. First Street | Seneca | 1971-1974 |

**COMMITTEE ON INDUSTRIAL MEDICINE:**

| | | | |
|---|---|---|---|
| Dr. David E. Holler | 2753 Laurel Street | Columbia | 1972-1975 |
| Dr. David W. Baxley, Jr. | 1428 Meeting Street Road | Charleston | 1972-1975 Reappt. |
| Dr. William J. Goudelock | 801 North A. Street | Easley | 1972-1975 Reappt. |
| Dr. H. Leon Poole | 324 St. John Street | Spartanburg | 1970-1973 Reappt. |




0.5 Gm tablets

# ORINASE®
## tolbutamide, Upjohn

**Upjohn**

The Upjohn Company
Kalamazoo, Michigan 49001
JA72-2407-6

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# Call it what you will, it may be premalignant.

## Before

3/29/67 Before therapy with 5%-FU cream. Patient P. T. shows a moderately severe solar keratotic involvement. Note residual scarring from the previous cryosurgical and electrosurgical procedures on forehead and ridge of nose adjacent to periauricular area.

## After

6/12/67 Seven weeks after cessation of therapy. Reactions have subsided. Residual scarring is not seen except for that due to prior surgery. Inflammation has disappeared and face is clear of keratotic lesions.



ROCHE
Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

# nd Efudex® (fluorouracil) 5% cream can resolve it.

## l it actinic, solar or senile keratoses, ıy regard it as "precancerous."[1,2]

cal fluorouracil, considered by some dermatologists to be a major nce in the treatment of multiple solar keratoses,[3,4] offers the physi- a relatively inexpensive alternative to cryosurgery, electrodesic- n and cold knife surgery. Of the topical fluorouracils available, only dex offers 2% and 5% solution and 5% cream formulations—formula- s that have proved effective in the treatment of these mutliple lesions.

## ıal duration of therapy, 2 to 4 weeks.

ies showed that with the 2% and 5% Efudex preparations, the usual tion of therapy was only 2 to 4 weeks.[5] Other studies with topical ouracil revealed that when concentrations of less than 2% were , significant numbers of lesions recurred.[6]

## eats the lesions you can't see, too.

ıerous lesions, not apparent prior to 2% and 5% Efudex therapy, ifested themselves by definite reactions, while intervening skin ained relatively unaffected.[5] The early eradication of these subclini- esions (which may otherwise have undergone further progression) ably accounts for the reduced incidence of future solar keratoses in ents treated with topical fluorouracil—especially with 5% entrations.[6]

## w to identify solar keratoses.

ically, the lesion—a flat or slightly elevated brown to red-brown ule—is dry, rough, adherent and sharply defined. Multiple lesions the rule.

## edictable therapeutic response.

response to a typical course of Efudex therapy is usually acteristic and predictable. After 3 or 4 days of treatment, erythema ns to appear in the area of keratoses. This is followed by a moderate tense inflammatory response, scaling and occasionally moderate erness or pain. The height of this response generally occurs two ks after the start of therapy and then begins to subside as treatment opped. Within two weeks of discontinuing medication, the mmation is usually gone. Lesions that do not respond should iopsied.

ences: 1. Allen, A. C.: *The Skin, A Clinicopathological Treatise*, ed. 2, New York, e & Stratton, 1967, p. 842. 2. Dillaha, C. J.; Jansen, G. T, and Honeycutt, W. M.: atment of Actinic Keratoses with Topical Fluorouracil," in Waisman, M. (ed.): *maceutical Therapeutics in Dermatology*, Springfield, Ill., Charles C Thomas, 1968, 3. Belisario, J. C.: *Cutis, 6*:293, 1970. 4. Sams, W. M.: *Arch. Derm., 97*:14, 1968. ta on file, Hoffmann-La Roche Inc., Nutley, New Jersey. 6. Williams, A. C., and , E.: *Cancer, 25*:450, 1970.

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Multiple actinic or solar keratoses.

**Contraindications:** Patients with known hypersensitivity to any of its components.

**Warnings:** If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

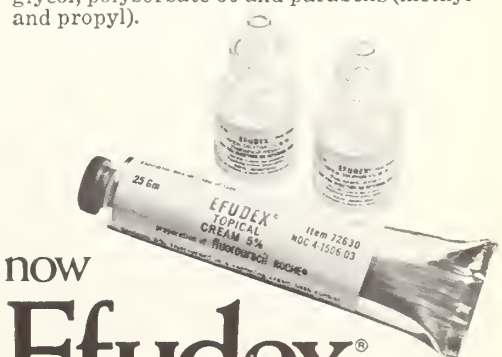
**Precautions:** If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

**Adverse Reactions:** Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

**Dosage and Administration:** Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

**How Supplied:** Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).




now
# Efudex®
(fluorouracil)
cream/solution

| | | | |
|---|---|---|---|
| Dr. Allen R. Slone | Sonoco Products Co. | Hartsville | 1970-1973 Reappt. |
| Dr. Harold H. Jeter, Jr. | 408 S. Coit Street | Florence | 1971-1974 |
| Dr. James F. Dusenberry, Jr. | Oconee County Hospital | Seneca | 1971-1974 |

**COMMITTEE ON MATERNAL HEALTH:**

| | | | |
|---|---|---|---|
| Dr. Raymond M. Farmer | 813 N. Fant St. | Anderson | 1972-1975 (OBG) |
| Dr. Halsted M. Stone | 139 Church St. | Chester | 1972-1975 (FP) |
| Dr. Edward J. (Bill) Dennis | Medical Univ. Hosp. | Charleston | (OBG) |
| Dr. Philip P. Claytor | 1616 Jackson St. | Barnwell | 1970-1973 (GP) |
| Dr. Richard Y. Wescoat | 1010 Woodland Dr. | Lancaster | 1970-1973 (GP) |
| Dr. Boyce G. Tollison | Medical Center | Easley | 1971-1974 (GP) |
| Dr. Heyward Hudson | 3017 Augusta Rd. | Greenville | 1970-1973 (OBG) |
| Dr. Hilla Sheriff (State Board of Health) | | Columbia | |

**COMMITTEE ON INFANT AND CHILD HEALTH:**

| | | | |
|---|---|---|---|
| Dr. Preston H. Edwards | N. Limestone St. | Gaffney | 1972-1975 (GP) Rpt. |
| Dr. C. Guy Castles, Jr. | 1417 Gregg St. | Columbia | 1972-1975 (PED) |
| Dr. W. C. Hearin, Jr. | 12 S. Leach St. | Greenville | 1972-1975 (OBG) |
| Dr. Stanton L. Collins | 907 Burroughs St. | Conway | 1970-1973 (OBG) |
| Dr. David C. McLean | 248 S. Irby St. | Florence | 1970-1973 (PED) |
| Dr. J. Richard Sosnowski | 231 Calhoun | Charleston | 1971-1974 (GYN) |
| Dr. William H. Lee | 210 N. Pine St. | Seneca | 1971-1974 (PED) |
| Dr. James Thrailkill | 34 Foundry Hill Rd. | Cheraw | 1971-1974 (GP) |
| Dr. David G. Askins, Jr. | 1115 N. Main St. | Marion | 1971-1974 (GP) |
| Dr. Hilla Sheriff (State Board of Health) | | Columbia | |

**Sub-Committee: Committee on School Health**

**MEMORIAL COMMITTEE:**

| | | | |
|---|---|---|---|
| Dr. Robert W. Patton | 1169 Oakland Ave. | Rock Hill | 1972-1975 Reappt. |
| Dr. Buford S. Chappell | 2011 Hampton St. | Columbia | 1970-1973 |
| Dr. J. Decherd Guess | 200 E. North St. | Greenville | 1971-1974 |

**COMMITTEE ON HISTORICAL MEDICINE:**

| | | | |
|---|---|---|---|
| Dr. Leon Banov, Jr. | 104½ Rutledge Ave. | Charleston | 1970-1973 Reappt. |
| Dr. Chapman Milling | 1515 Bull St. | Columbia | 1970-1973 |
| Dr. Julian P. Price | 248 S. Irby St. | Florence | 1971-1974 |

**COMMITTEE ON CONSTITUTION AND BY-LAWS:**

| | | | |
|---|---|---|---|
| Dr. Kenneth N. Owens | 148 Waterloo St., SW | Aiken | 1972-1975 Reappt. |
| Dr. Halsted M. Stone | 139 Church St. | Chester | 1972-1975 Reappt. |
| Dr. Joseph D. Thomas | 546 S. Palmetto Ave. | Denmark | 1972-1975 Reappt. |
| Dr. William H. Hunter | 217 Pendleton St. | Clemson | 1970-1973 Reappt. |
| Dr. J. Gavin Appleby | 202 Gavin St. | St. George | 1970-1973 Reappt. |
| Dr. W. Carl Walsh, Jr. | Doctor's Clinic | Easley | 1971-1974 Reappt. |
| Dr. Louie B. Jenkins | 42 Gadsden St. | Charleston | 1971-1974 |

**MEDIATION COMMITTEE: (Elected by SCMA House of Delegates: 3-year terms)**

| | | | | |
|---|---|---|---|---|
| Dr. Arthur S. Jenkins | 512 S. Ribaut Rd. | (1st) | Beaufort | 1972-1975 |
| Dr. Guy C. Heyl, Jr. | 525 Richland Ave., W | (2nd) | Aiken | 1970-1973 |
| Dr. Ralph P. Baker | 1307 Hunt St. | (3rd) | Newberry | 1971-1974 |
| Dr. William J. Bannen, Jr. | 304 S. Main St. | (4th) | Simpsonville | 1972-1975 Reappt. |
| Dr. Max A. Culp | 101 Allison St. | (5th) | Fort Mill | 1970-1973 Reappt. |

| | | | | |
|---|---|---|---|---|
| Dr. James S. Garner | 110 E. Proctor St. | (6th) | Mullins | 1971-1974 |
| Dr. David D. Moise | 5 Medical Court | (7th) | Sumter | 1972-1975 |
| Dr. John W. Rheney, Jr. | 620 Carolina NE | (8th) | Orangeburg | 1970-1973 Reappt. |
| Dr. W. A. Wallace | 251 Pine St. | (9th) | Spartanburg | 1971-1974 Reappt. |

**BENEVOLENCE FUND COMMITTEE: (Elected by SCMA House of Delegates: 3-year terms)**

| | | | |
|---|---|---|---|
| Dr. Louis P. Jervey | 65 Gadsden St. | Charleston | 1972-1975 |
| Dr. V. Wells Brabham, Jr. | 930 Holly St., NE | Orangeburg | 1970-1973 Reappt. |
| Dr. Clay W. Evatt, Jr. | 91 Rutledge Ave. | Charleston | 1971-1974 Reappt. |

**STATE BOARD OF NURSING EXAMINERS (Appointed by Governor) 5-year appointments**

| | | | |
|---|---|---|---|
| Dr. J. Richard Allions | 1513 Gregg Street | Columbia | 1968-1973 |
| Dr. Andrew J. Whitaker | 1701 St. Julien Pl. | Columbia | 1972-1977 |

**HOSPITAL ADVISORY COUNCIL TO THE STATE BOARD OF HEALTH**
**(Appointed by Governor) 4-Year appointments.**

| | | | |
|---|---|---|---|
| Dr. Laurie L. Brown | V. A. Hospital | Charleston | 1972-1976 |
| Dr. Cyril O. Spann | 2226 Hampton Street | Columbia | 1970-1974 |
| Dr. Michael F. Patton | General Hospital | Spartanburg | 1971-1975 |

**MEDICAL ADVISORY BOARD OF THE SOUTH CAROLINA INDUSTRIAL COMMISSION (2-year term)**

Radiologists:
Dr. Hyman H. Addlestone, St. Francis Xavier Hospital, Charleston, S. C. 29401
Dr. J. Harvey Atwill, Jr., 550 Carolina Avenue, Orangeburg, S. C. 29115
Dr. Rupert E. Hodges, General Hospital, Spartanburg, S. C. 29303
Pathologists:
Dr. Edward E. McKee, Medical University, Charleston, S. C. 29401
Dr. Hunter W. May, Self Memorial Hospital, Greenwood, S. C. 29646
Dr. James Greiner, McLeod Infirmary, Florence, S. C. 29501
Medical Doctors:
Dr. Waitus O. Tanner, 1412 Barnwell St., Columbia, S. C. 29201
Dr. William W. Edwards, 601-B Arlington Avenue, Greenville, S. C. 29601
Dr. C. Tucker Weston, 1410 Barnwell St., Columbia, S. C. 29201
Member at Large:
Dr. Shephard N. Dunn, 1520 Laurel St., Columbia, S. C. 29201

**STATE BOARD OF MEDICAL EXAMINERS OF SOUTH CAROLINA**
**(Appointed by Governor) 4-year term**

| | | | | |
|---|---|---|---|---|
| Dr. A. Richard Johnston | 210 Parler Avenue | St. George | 1st Dis. | April 1973 Reappt. |
| Dr. Kirby D. Shealy | 1419 Blanding St. | Columbia | 2nd Dis. | April 1975 Reappt. |
| Dr. William P. Turner | 218 North Main St. | Greenwood | 3rd Dis. | April 1973 Reappt. |
| Dr. Charles N. Wyatt | 301 Coffee Street | Greenville | 4th Dis. | April 1974 Reappt. |
| Dr. Roderick Macdonald | 330 E. Main St. | Rock Hill | 5th Dis. | April 1975 Reappt. |
| Dr. Harold S. Gilmore | | Nichols | 6th Dis. | April 1976 Reappt. |
| Dr. Leonard W. Douglas | P. O. Box 645 | Belton | Member at Large | April 1976 |
| Dr. William O. Whetsell | 857 Holly St., NE | Orangeburg | Member at Large | April 1974 Reappt. |

**TUBERCULOSIS CONTROL ADVISORY COMMITTEE: (State Board of Health) 2-year appointment by Governor)**

| | | | |
|---|---|---|---|
| Dr. E. Alex Heise | 108 N. Magnolia Street | Sumter | 1972-1974 |

## ACTIVE COMMITTEES — APPOINTED BY COUNCIL — 1972-1973

**Investment Committee**

| | |
|---|---|
| Dr. Howard Stokes | 161 W. Cheves St., Florence 29501 |
| Dr. John D. Gilland | 905 Bell St., Conway 29526 |
| Dr. Harold P. Hope | 429 E. Main Street, Union, S. C. 29379 |
| Dr. Harrison Peeples | Estill 29918 |
| Dr. Waitus O. Tanner | 1412 Barnwell St., Columbia 29201 |
| Mr. M. L. Meadors — Ex Officio | 113 N. Coit St., Florence 29501 |
| Dr. Edward F. Parker | 158 Rutledge Avenue, Charleston 29403 |

**Ad hoc Committee on Organ Transplants** (Appointed by Dr. Eaddy) Voted by Council, May 1968, to be on a permanent basis

| | |
|---|---|
| Dr. Dan W. Ellis | Medical University Hospital |
| Dr. Curtis P. Artz | Medical University Hospital |
| Dr. Arthur V. Williams | Medical University Hospital |
| Dr. Pete C. Gazes | Medical University Hospital |
| Dr. H. Biemann Othersen, Jr. | Medical University Hospital |

## SUB-COMMITTEE ADVISORY COMMITTEE TO THE S. C. VOCATIONAL REHABILITATION DEPARTMENT

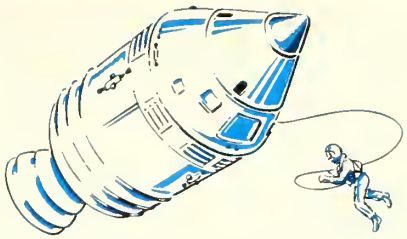
| | | | |
|---|---|---|---|
| General Surgery | Dr. J. Kilgo Webb, Chairman | Greenville | Term expires May 1973 |
| Internal Medicine | Dr. Richard M. Christian | Greenwood | Term expires May 1973 |
| Neurology | Dr. Albert F. Aiken | Charleston | Term expires May 1973 |
| General Surgery | Dr. Harry J. Metropol | Columbia | Term expires May 1974 |
| Otolaryngology | Dr. A. Frank Weir, Jr. | Spartanburg | Term expires May 1974 |
| Psychiatry | Dr. Robert N. Milling | Columbia | Term expires May 1974 |
| Anesthesiology | Dr. Roy E. Hudgens, Jr. | Florence | Term expires May 1975 |
| General Practice | Dr. Malcolm L. Marion | Chester | Term expires May 1975 |
| Internal Medicine | Dr. Charles P. Summerall, III | Charleston | Term expires May 1975 |
| Orthopedics | Dr. Roland M. Knight | Greenville | Term expires May 1975 |
| Urology | Dr. Joseph H. Miller, III | Columbia | Term expires May 1975 |
| State Health Officer | Dr. E. Kenneth Aycock | Columbia | |
| State Medical Consultant | Dr. Ben N. Miller | Columbia | |

**1972-1973 Peer Review Committee:**

| | |
|---|---|
| District 1 | — Dr. Thomas W. Messervy, Summerville 29483 |
| District 2 | — Dr. Paul T. Hopkins, Columbia 29201 |
| District 3 | — Dr. E. Mims Mobley, Greenwood 29646 |
| District 4 | — Dr. Lucius M. Cline, Jr., Greenville 29601 |
| District 5 | — Dr. Allen P. Jeter, Winnsboro 29180 |
| District 6 | — Dr. Edward L. Proctor, Conway 29526 |
| District 7 | — Dr. Wallis D. Cone, Sumter 29150 |
| District 8 | — Dr. James H. Gressette, Orangeburg 29115 |
| District 9 | — Dr. Michael F. Patton, Spartanburg 29303 |
| Member at Large | — Dr. J. Anthony White, Easley 29640 |

**Permanent Home Committee:**

District 1 — Dr. J. Manly Stallworth, Charleston
District 2 — Dr. C. Tucker Weston, Columbia
District 3 —
District 4 — Dr. James C. Brice, Jr., Easley



*Man in space, now fait accompli, re-emphasizes the importance of Uro-Phosphate therapy. Research into the effect of space travel on the astronaut reveals that weightlessness causes loss of bone calcium. As the bones are required to bear less and less of the weight of the body they lose calcium, increasing the calcium content of the urine. When physical activity is reduced, the acidity of the urine should be adjusted to keep increased calcium in solution . . . . a prophylaxis to prevent kidney or bladder calculi.*

# Uro-Phosphate®

*NOW A SUGAR-COATED TABLET*

*Each tablet contains:* METHENAMINE, 300 mg.; SODIUM ACID PHOSPHATE, 500 mg.

Uro-Phosphate gives comfort and protection when inactivity causes discomfort in the urinary function. It keeps calcium in solution, preventing calculi; it maintains clear, acid, sterile urine; it encourages complete voiding and lessens frequency when residual urine is present.

Uro-Phosphate contains sodium acid phosphate, a natural urinary acidifier. This component is fortified with methenamine which is inert until it reaches the acid urinary bladder. In this environment it releases a mild antiseptic keeping the urine sterile.

Uro-Phosphate is safe for continuous use. There are no contra-indications other than acidosis. It can be given in sufficient amount to keep the urine clear, acid and sterile. A heavy sugar coating protects its potency.

**Dosage:**

*For protection of the inactive patient 1 or 2 tablets every 4 to 6 hours is usually sufficient to keep the urine clear, acid and sterile.*

*2 tablets on retiring will keep residual urine acid and sterile, contributing to comfort and rest.*

*A clinical supply will be sent to physicians and hospitals on request.*

WILLIAM P. POYTHRESS & COMPANY, INC., RICHMOND, VIRGINIA 23217

*Manufacturers of Ethical Pharmaceuticals*



# When you select this familiar antibiotic for IV infusion you have available a broad dosage range that hospitalized patients may need.

Intravenous Lincocin (lincomycin hydrochloride, Upjohn), with its 1.2 to 8 grams/day dosage range, covers many serious and even life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. Lincocin IV therefore can be as useful in your hospitalized patients as its IM use has proved to be in your office patients. As with all antibiotics, *in vitro* susceptibility studies should be performed.

**1.2 to 8 grams/day IV dosage range:** Most hospitalized patients with uncomplicated pneumonias respond satisfactorily to 1.2 to 1.8 grams/day of Lincocin IV. These doses may have to be increased for more serious infections. In life-threatening situations as much as 8 grams/day has been administered intravenously to adults.

In usual IV doses, Lincocin (lincomycin hydrochloride, Upjohn) should be diluted in 250 ml or more of normal saline solution or 5% glucose in water. But when 4 grams or more per day is given, Lincocin should be diluted in no less than 500 ml of either solution, and the rate of administration should not exceed 100 ml/hour. Too rapid intravenous administration of doses exceeding 4 grams may result in hypotension or, in rare instances, cardiopulmonary arrest.

**Effective gram-positive antibiotic:** Lincocin IV is effective in respiratory tract, skin and soft-tissue, and bone

ections caused by susceptible strains
pneumococci, streptococci, and
phylococci, including penicillin-
istant strains. Staphylococcal strains
istant to Lincocin (lincomycin
drochloride, Upjohn) have been
overed. Before initiating therapy,
ture and susceptibility studies should
performed. Lincocin has proved
uable in treating patients hyper-
sitive to penicillin or cephalosporins,
ce Lincocin does not share
igenicity with these compounds.
wever, hypersensitivity reactions
ve been reported, some of these in
ients known to be sensitive to
nicillin.

**ell tolerated at infusion site:** Lincocin
ravenous infusions have not
oduced local irritation or phlebitis,
en given as recommended. Lincocin
sually well tolerated in patients who
hypersensitive to other drugs.
vertheless, Lincocin should be used
tiously in patients with asthma or
nificant allergies.

patients with impaired renal function,
recommended dose of Lincocin
uld be reduced to 25—30% of
dose for patients with normal
ney function. Its safety in
gnant patients and in infants
than one month of age has
been established.

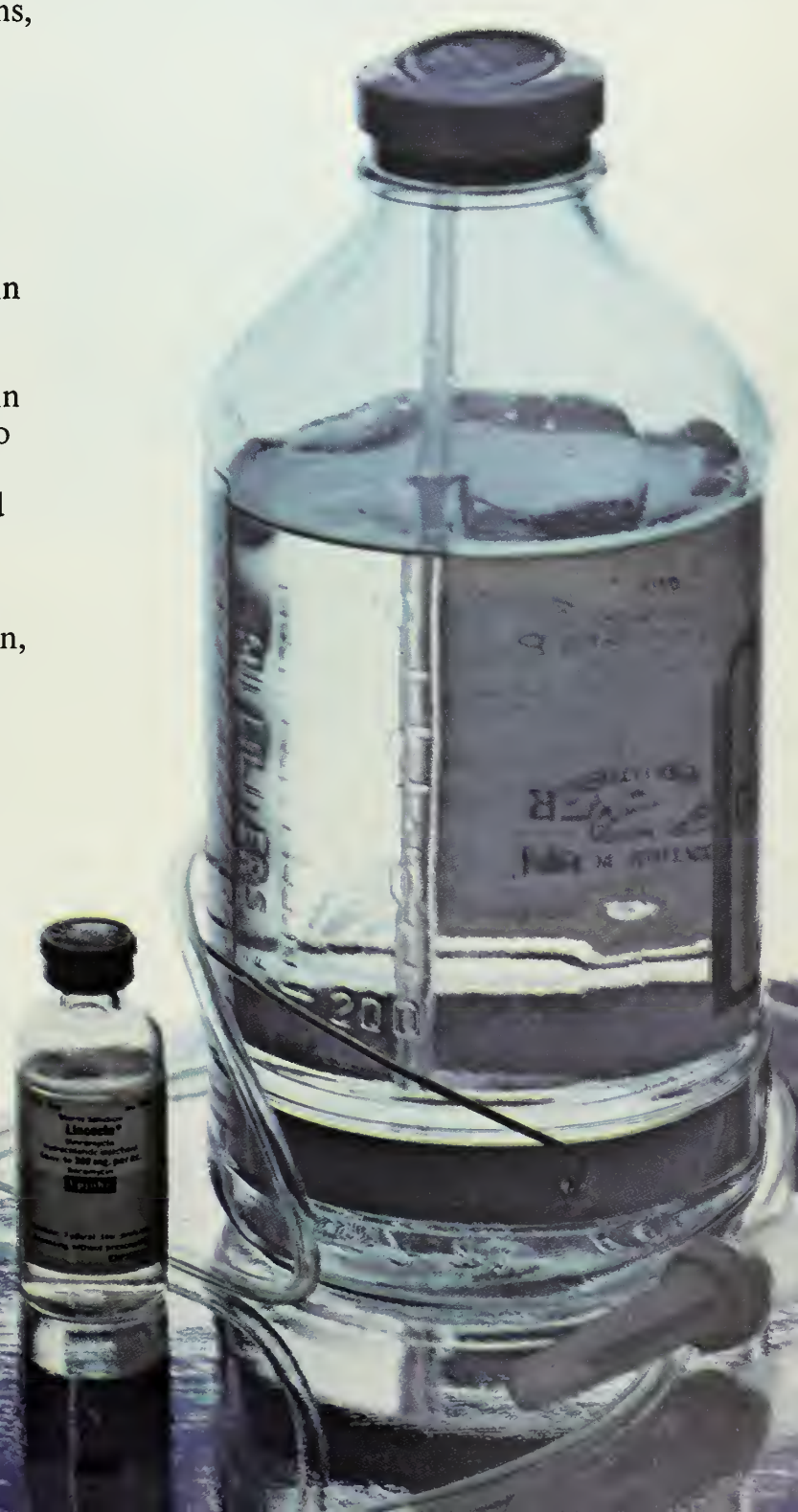
**ncocin may be used with other
imicrobial agents:** Since Lincocin
table over a wide pH range, it is
table for incorporation in
ravenous infusions; it also may be
administered concomitantly with other antimicrobial agents when indicated. However, Lincocin should not be used with erythromycin, as *in vitro* antagonism has been reported.

# Lincocin®

Sterile Solution (300 mg per ml)

(lincomycin hydrochloride, Upjohn)

For further prescribing information, please see following page.



72 The Upjohn Company



Sterile Solution (300 mg. per ml.)

# Lincocin®

## (lincomycin hydrochloride, Upjohn)

**Up to 8 grams per day by IV infusion for hospitalized patients with life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. As with all antibiotics, *in vitro* susceptibility studies should be performed.**

| Each preparation contains: | Lincomycin hydrochloride monohydrate equivalent to lincomycin base |
|---|---|
| 250 mg Pediatric Capsule | 250 mg |
| 500 mg Capsule | 500 mg |
| *Sterile Solution per 1 ml | 300 mg |
| Syrup per 5 ml | 250 mg |

*Contains also: Benzyl Alcohol 9 mg; and, Water for Injection—q.s.

Lincocin (lincomycin hydrochloride) is indicated in infections due to susceptible strains of staphylococci, pneumococci, and streptococci. *In vitro* susceptibility studies should be performed. Cross resistance has not been demonstrated with penicillin, ampicillin, cephalosporins, chloramphenicol or the tetracyclines. Some cross resistance with erythromycin has been reported. Studies indicate that Lincocin does not share antigenicity with penicillin compounds.

CONTRAINDICATIONS: History of prior hypersensitivity to lincomycin or clindamycin. Not indicated in the treatment of viral or minor bacterial infections.

WARNINGS: *CASES OF SEVERE AND PERSISTENT DIARRHEA HAVE BEEN REPORTED AND HAVE AT TIMES NECESSITATED DISCONTINUANCE OF THE DRUG. THIS DIARRHEA HAS BEEN OCCASIONALLY ASSOCIATED WITH BLOOD AND MUCUS IN THE STOOLS AND HAS AT TIMES RESULTED IN AN ACUTE COLITIS. THIS SIDE EFFECT USUALLY HAS BEEN ASSOCIATED WITH THE ORAL DOSAGE FORM BUT OCCASIONALLY HAS BEEN REPORTED FOLLOWING PARENTERAL THERAPY.* A careful inquiry should be made concerning previous sensitivities to drugs or other allergens. Safety for use in pregnancy has not been established and Lincocin (lincomycin hydrochloride) is not indicated in the newborn. Reduce dose 25 to 30% in patients with severe impairment of renal function.

PRECAUTIONS: Like any drug, Lincocin should be used with caution in patients having a history of asthma or significant allergies. Overgrowth of nonsusceptible organisms, particularly yeasts, may occur and require appropriate measures. Patients with pre-existing monilial infections requiring Lincocin therapy should be given concomitant antimonilial treatment. During prolonged Lincocin therapy, periodic liver function studies and blood counts should be performed. Not recommended (inadequate data) in patients with pre-existing liver disease unless special clinical circumstances indicate. Continue treatment of β-hemolytic streptococci infections for 10 days to diminish likelihood of rheumatic fever or glomerulonephritis.

ADVERSE REACTIONS: *Gastrointestinal*—Glossitis, stomatitis, nausea, vomiting. Persistent diarrhea, enterocolitis, and pruritus ani. *Hemopoietic*—Neutropenia, leukopenia, agranulocytosis, and thrombocytopenic purpura have been reported. *Hypersensitivity reactions*—Hypersensitivity reactions such as angioneurotic edema, serum sickness, and anaphylaxis have been reported, sometimes in patients sensitive to penicillin. If allergic reaction occurs, discontinue drug. Have epinephrine, corticosteroids, and antihistamines available for emergency treatmer. *Skin and mucous membranes*—Skin rashe urticaria, vaginitis, and rare instances of e foliative and vesiculobullous dermatitis ha been reported. *Liver*—Although no direct r lationship to liver dysfunction is establishe jaundice and abnormal liver function te (particularly serum transaminase) have be observed in a few instances. *Cardiovascul*—Instances of hypotension following pare teral administration have been reporte particularly after too rapid IV administi tion. Rare instances of cardiopulmonary a rest have been reported after too rapid l administration. If 4.0 grams or more admi istered IV, dilute in 500 ml of fluid a administer no faster than 100 ml per hou *Special senses*—Tinnitus and vertigo ha been reported occasionally. *Local reactio*—Excellent local tolerance demonstrated intramuscularly administered Lincoc (lincomycin hydrochloride). Reports of p following injection have been infreque Intravenous administration of Lincocin 250 to 500 ml of 5% glucose in distil water or normal saline has produced local irritation or phlebitis.

HOW SUPPLIED: *250 mg* and *500 m* Capsules—bottles of 24 and 100. *Ster Solution, 300 mg per ml*—2 and 10 ml vi and 2 ml syringe. *Syrup, 250 mg per 5* —60 ml and pint bottles.

*For additional product information, cons the package insert or see your Upjo representative.*

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## PULMONARY PHYSIOLOGY SEMINAR

### OCTOBER 2 - 6, 1972

A five-day course in pulmonary physiology and pulmonary function will be held October 2 - 6, 1972 at the Veterans Administration Hospital, Charleston, South Carolina. It will be conducted with the particular interests and needs of Nurses, Inhalation Therapists, Pulmonary Function Technologists and Physical Therapists in mind. Other paramedical personnel in South Carolina and surrounding states, as well as interested physicians, are also encouraged to attend.

Presentations by recognized experts will be given. Areas of instruction will include Anatomy and Function of Lung, Demonstration and Discussion of Spirometry, Pulmonary Physiology, Demonstration and Discussion of Lung Volumes, Radiosotopes in Pulmonary Function, Blood Gas Equipment, Acid Base Balance, and Demonstration of Physiotherapy of Chest and Respirators. There will also be a panel discussion on the Team Approach to Respiratory Care.

The registration fee is $40.00. Enrollment will be limited to a maximum of 75, and a minimum of 25. A brochure containing the course agenda and registration forms will be mailed in the near future to individuals in South Carolina and nearby states. Two social functions will be held for the trainees.

The above course is under the direction of Dr. Robert Galphin, Assistant Professor of Medicine, Medical University of South Carolina, and Director of Pulmonary Services and Laboratories of the Charleston Veterans Administration Hospital and Charleston County Hospital.

The South Carolina Regional Medical Program and the Division of Continuing Education of the Medical University of South Carolina are co-sponsors. For registration or further information, interested persons may contact:

Vince Moseley, M.D., Director
Division of Continuing Education
Medical University of South Carolina
80 Barre Street
Charleston, South Carolina 29401
Telephone (803) 792-4241




**Dr. Leonard W. Douglas**, who has practiced medicine in Belton for 14 years, has been elected to the South Carolina State Board of Medical Examiners. **Dr. Allen H. Johnson** has been named chief of medical service at Charleston County Hospital, where he will be responsible for directing the training of internal medicine students, interns and residents assigned to the hospital. Dr. Johnson was also elected president of the County Hospital medical staff. **Dr. Robert L. Lumpkin**, a 17-year practitioner in obstetrics-gynecology, has been elected to the Georgetown County Memorial Hospital Board of Trustees.



**Dr. Eli M. Nadel**, a nationally known pathologist and medical educator from St. Louis, Missouri, has been appointed Chief of Staff at the Veterans Administration Hospital and an Associate Dean at the Medical University. Dr. Nadel received his M.D. in 1945 at the Long Island College of Medicine and, prior to coming to Charleston, served from 1968 as the Associate Dean, Professor and Acting Chairman of Pathology and Professor of Community Medicine at St. Louis University School of Medicine.

**Dr. Karl Eurenius** has also been appointed to the medical staff of the Charleston Veterans Administration Hospital. He is a 1965 graduate of Cornell University Medical School and joins the VA staff after completion of three years with the U. S. Army Institute of Surgical Research. **Capt. Donald W. Robinson**, Naval Hospital commanding officer, has been named head of the Naval Regional Medical Center established recently in Charleston.

**Dr. H. Biemann Othersen**, chairman of the division of pediatric surgery at the Medical University of South Carolina, was elected president of the Charleston unit of the American Cancer Society at its annual meeting. **Dr. Stanley Karesh** will serve as first vice president. **Dr. Leland J. Brannon**, director of the State Board of Health's cancer clinic at Richland Memorial Hospital, has retired after 34 years of service. Dr. Brannon graduated from the Medical University of South Carolina and has been director of the clinic since its inception. **Dr. Raymond C. Ramage** has been ordained one of four Episcopal "worker-priests" in the United States. Dr. Ramage, a general and thoracic surgeon, joined the medical staff of Greenville General Hospital in 1953. **Dr. Robert L. Lumpkin** of Georgetown has been named a member of the South Carolina Wildlife and Marine Resources Commission.

**Dr. John Logan Ward**, a Rock Hill native and graduate of the Medical University, has been named director of pathology for Richland Memorial Hospital. **Dr. Hoke Frederick Henderson, Jr.** has also joined the hospital staff as a pathologist. Dr. Henderson received his medical degree from the University of North Carolina School of Medicine. **Dr. Edward J. Dennis** of Charleston has been named director of staff obstetrics-gynecology at Richland Memorial Hospital. Dr. Dennis has been a member of the faculty at the Medical University since 1955 and will direct and supervise the activities and education of the hospital's Ob-Gyn residents and interns.

Five resident physicians at Spartanburg General Hospital have completed their service. **Drs. William Miles** and **Rayford Quinn**

will be associated with **Dr. David K. Stokes, Jr.**, in his practice of medicine in Inman. **Dr. Paul Davis** of Darlington is returning to the Medical University for the remainder of his otolaryngology training. **Dr. Arnold L. Denler** will complete three years of his residency in October and begin practice in Inman. **Dr. Martin Key** has completed the first year of Family Practice residency.

**Dr. James M. Ford** is now associated with **Dr. H. G. Royal** at Langley. He is a graduate of the Medical College of Georgia and did his post-graduate internship at Eugene Talmadge Memorial Hospital in Augusta.

**Dr. Allen H. Strickland** has begun his duties at the Colleton County Hospital as an associate of **Dr. X. Carroll Brown**, radiologist. **Dr. T. James Bell, Jr.** has joined **Dr. M. B. Nickles, Jr.** in the practice of general family medicine in Hartsville.

**Dr. Hamilton Earl Russell, Jr.** has completed his studies at the Medical University and has joined **Drs. Thomason, Amspacher and Grimball** in the practice of general surgery in Greenville. **Drs. Henry W. Moore** and **C. Guy Castles, Jr.** have announced their professional association effective July 1. They will practice pediatrics at 1417 Gregg Street, Columbia. **Dr. DeWitt Niles**, graduate of the University of New York at Syracuse, has recently moved to Anderson, where he will be associated with the Anderson Anesthesia Associates. **Dr. Darwin W. Keller**, a Spartanburg native, has completed residency training at the Medical University of South Carolina and will return to Spartanburg to go into private practice.

**Dr. Carroll A. Pinner**, a resident at Greenville General Hospital in Greenville, South Carolina today received one of the sixteen annual Mead Johnson Awards for Graduate Education in Family Practice. The award consists of $1,200 to be used to help defray the expenses of a year's training in a family practice residency. The awards program was established in 1952 by the American Academy of Family Physicians, Kansas City Missouri. Dr. Pinner is a native of Peak, South Carolina. He received his MD degree from Bowman Gray School of Medicine in Winston-Salem, North Carolina in 1971. He is the son of Dr. & Mrs. C. A. Pinner, Jr. of Peak, South Carolina. Dr. Pinner started his second year of training in a family practice residency at Greenville General Hospital, Greenville, S. C. in July. Funds for the Academy's program are provided by Mead Johnson Laboratories, manufacturer of infant nutritional products.

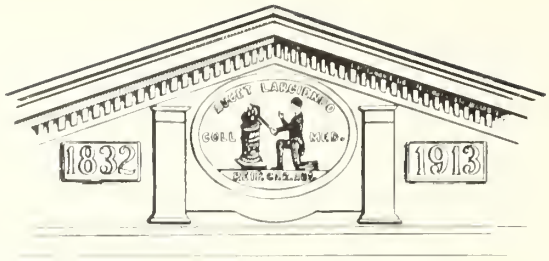
## SEMINAR

Six physicians outstanding in the field of hypertension will constitute the guest faculty for a one day seminar entitled DIAGNOSIS AND MANAGEMENT IN THE HYPERTENSIVE PATIENT to be presented on November 10, 1972, at the Medical University of South Carolina, Charleston, S. C., under the direction of the Renal Division of the Department of Medicine. The speakers include Ray W. Gifford, M. D., Cleveland Clinic Foundation; Robert H. Heptinstall, M. D., Johns Hopkins University School of Medicine; John H. Laragh, M. D., Columbia University College of Physicians and Surgeons; James C. Melby, M. D., Boston University Hospital; James C. Hunt, M. D., Mayo Clinic and Foundation; and Frank A. Finnerty, M. D., Georgetown University School of Medicine. The Clinical application of recent knowledge will be stressed. Topics covered should be of particular interest to family physicians, internists, obstetricians and gynecologists, cardiologists and nephrologists. For family physicians, six hours of AAFP credits will be awarded. Registration fee is $15.00.

The above program is jointly sponsored by the Renal Division, Department of Medicine and the Division of Continuing Education of the Medical University of South Carolina and by G. D. Searle and Company.

For further information and registration, please contact:

Vince Moseley, M. D., Director
Division of Continuing Education
Medical University of South Carolina
80 Barre Street
Charleston, South Carolina 29401




## Medical University of South Carolina

The Medical University of South Carolina has received a $221,000 federal grant to train military corpsmen as assistants to physicians located throughout South Carolina. A year of intense training will be given to qualify the corpsmen to handle a number of routines—from taking parts of physical examinations to suturing minor lacerations—under the supervision of doctors. The program is commonly known as MEDEX, a French acronym for physician extension. It will be administered by the College of Allied Health Sciences.

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Dr. Joseph V. Fisher, former president of the Michigan Chapter of the American Academy of Family Physicians, has joined the faculty at the Medical University of South Carolina. Dr. Fisher has been appointed an associate professor in the Department of Family Practice. He is beginning his teaching experience here after 26 years of general practice in Chelsea, Michigan. He was president of the Michigan Chapter of the American Academy of Family Physicians for 1971-72.

Dr. Thomas B. Higerd and Dr. Edward R. Bannister have been appointed as assistant professors in the Department of Microbiology at the Medical University of South Carolina. Dr. Bannister serves as director of the Bacteriology Diagnostic Laboratory and Dr. Higerd specializes in bacterial physiology. Dr. Bannister has a B.S. degree in zoology from Marshall University, Huntington, W. Va.; and an M.S. degree in bacteriology from the University of Georgia. He was awarded his Ph.D. in microbiology in 1970 at the University of Oklahoma. Dr. Higerd, a native of Pittsburgh, Pa., is a 1964 graduate of Washington and Jefferson College in Washington, Pa., with a B.A. in biology. He earned his Ph. D. degree at Wayne State University School of Medicine, Detroit, Mich., where he majored in microbiology.

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Dr. W. Burwell Dunn and Dr. Ervin B. Shaw have been appointed Teaching Fellows in Pathology at the Medical University of South Carolina. Their appointment is for the period July 1, 1972, through June 30, 1973.

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## DR. ZANKEL TO TEACH STROKE REHABILITATION

Dr. Harry T. Zankel, Professor of Rehabilitation Medicine, Allen University, Columbia has been awarded a Title I grant of the Higher Education Act of 1965 to teach STROKE REHABILITATION to Graduate Nurses, Therapists and other paramedical personnel. These sessions will be for small groups and will be held at Allen University for a period of three hours on a one-time basis. The instruction will be based on Dr. Zankel's book *Stroke Rehabilitation,* recently published by Charles C. Thomas. Interested people should write to Dr. Zankel, at Allen University, 1530 Harden, Columbia, S. C. 29204.



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**E. Kenneth Aycock, M.D., M.P.H.**
**Secretary and State Health Officer**

## Important Information About Controlled Substances

SALE AND USE OF METHADONE RESTRICTED: Act No. 1448, which was passed by the South Carolina General Assembly on June 21, 1972, has the following provisions of interest to physicians:

1. A Methadone Council is formed, consisting of the Commissioner of Narcotics and Controlled Substances, the Commissioner of Mental Health, the State Health Officer, two physicians and two pharmacists. The Council has absolute and exclusive control over methadone programs in South Carolina.
2. Methadone and its sales are restricted:
   (a) to programs and facilities approved by the Council;
   (b) to use in a hospital.
3. No supplier, distributor, or manufacturer shall sell or distribute methadone or its salts to any person other than a hospital licensed by the State Board of Health, or a hospital or other facility approved by the State Department of Mental Health, or a facility approved for a methadone program by the Council.
4. Pharmacies and physicians with a stock of methadone on hand SHALL DISPOSE of SUCH STOCK within one year of the effective date of the Act. Such disposal may be through sale to a facility approved by the Council, and such sale (or transfer) must be on Federal Controlled Substances Order Forms (Forms BND-222).

REPORTS OF THEFTS OF CONTROLLED SUBSTANCES (any quantity, any schedule) must be made to the Narcotic and Drug Control Division, State Board of Health, 2600 Bull Street, Columbia, South Carolina, 29201 on forms which may be obtained from the Division, even though the stolen items are subsequently recovered. The proper filing of four copies with the Division will enable one report to suffice, as copies are forwarded to the Federal Bureau of Narcotics and Dangerous Drugs, which relieves the registrant of making more than one reporting.

SURRENDER OF UNDESIRED STOCKS OF CONTROLLED SUBSTANCES (old stock, excess stock, decomposed drugs, etc.) may be accomplished by the registrant making an inventory of drugs or substances that he wishes to surrender in quintuplicate, and notifying the Narcotics and Drug Control Division of his desire to dispose of them. Forms for the surrender (BND-41) may be obtained upon request from the Division. When notified that the packages to be destroyed are prepared, an inspector or agent will call for them, or they may be shipped, tape-sealed by prepaid express or registered mail to the Regional Director, Bureau of Narcotics and Dangerous Drugs, 201 N. E. Twelfth Street, Miami, Florida, 33132.

STATE RULES AND REGULATIONS concerning controlled substances may be obtained upon request from the Narcotic and Drug Control Division, State Board of Health, at no charge. Current copies of these regulations have been mailed to each pharmacy within the State already, and the pharmacy will probably make them available for temporary use upon request. FEDERAL REGULATIONS may be obtained at a cost of sixty cents from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., 20402, requesting *21 C. F. R. 300 to end.*

POWER OF ATTORNEY FORMS to enable persons other than the registrant of record to legally sign the Controlled Substances Order forms (BND-222) may be obtained from the Division upon request. These should be completed as per instructions contained thereon, and forwarded to BNDD. A proposed regulation by BNDD to simplify the power of attorney procedure has not as yet been finalized, and the old procedure must be followed until the time of the official change.

SECURITY OF CONTROLLED SUBSTANCES is not, in many cases, being handled as is provided in both State and Federal Regulations, which are identical. Practitioners and pharmacies are required to have ALL SCHEDULE II controlled substances, both narcotic and non-narcotic kept in "a securely locked substantially constructed cabinet." The Bureau of Narcotics and Dangerous Drugs emphasizes that this method of storage IS NOT to deter the night-in break-in type of theft, as the sophistication of these thieves is such that there is very little difference in the time required to pick the merchandise from the shelves, or to break open the cabinet. The official Bureau position for requiring the locked cabinet is to PREVENT PILFERAGE WHILE THE STORE OR OFFICE IS OPEN. It is the estimate of BNDD that there is at least an equal amount of controlled substances lost through pilferage from practitioners and pharmacies as there is through burglaries. Those persons not complying with State and Federal regulations concerning the proper security of controlled substances, particularly those listed in Schedule II, may be cited to show cause why the respective registrations should not be cancelled for failure to comply with the regulations published. The Federal authorities consider inappropriate security as seriously as they consider the failure to keep and maintain proper records and inventories, and the failure to comply has resulted in several administrative seizures by BNDD.

Any questions or problems that arise concerning the handling or storage of controlled substances; registrations under the controlled substances act; technical problems; prescription forgeries; controlled substances thefts; record keeping problems; or any others that may arise concerning controlled substances should be directed to:

Narcotics and Drug Control Division
State Board of Health
2600 Bull Street
Columbia, South Carolina 29201
Telephone (803) 758-5563

## AMA UPDATE*

*Most Americans are healthier now, DDI shows. But not the poor and northeasterners*
*Second of a series*

Are people healthier now than they were a few years ago, or are they becoming less healthy?

From the mid-1960's to 1970, the health of most Americans showed a modest, but measurable improvement, according to Update's latest survey of the *disability days index*. However, there were exceptions to that favorable trend . . .

Among the poor and near-poor, the DDI indicates that health has been getting worse. At the other end of the income scale, beginning at about $7,000, health has been improving gradually with higher incomes.

Health has also been improving in every quarter of the country, except in the northeast. It's been worsening there.

Briefly defined, the DDI measures the effect people say chronic and acute illnesses and injuries have on their living patterns. It's compiled by the National Center for Health Statistics, analytical arm of the U. S. Public Health Service, from weekly samplings of households across the land. Any day that illness or injury causes a person to reduce his normal daily activities is called a *restricted activity day*. The more severe restricted activity days, in which he is kept in bed or in a hospital, are called bed days.

How is people's health changing? The charts compare the DDI for 1970 with July 1965-June 1966 period, the midpoint of the 1960's. Like 1970, no major outbreak of flu was experienced in 1965-66. Most of the 1970 data are appearing for the first time in this report.

Among other trends, the DDI for the two years indicates these patterns of change . . .

The nation's healthiest people in the mid-1960's lived in the cities and suburbs of the northeastern states, and had incomes in the $7,000 to 9,999 range.

As of 1970, the healthiest people are living on farms in the midwest, with incomes of more than $10,000.

The gain among farming people has been particularly impressive. Since 1965-66, average days of restricted activity have dropped from 17 (highest in the U. S. among all types of community) to less than 13 (nation's healthiest.)

Status of health in the northeast may not be at the nation's lowest level, but it has been deteriorating. Why? "I suggest you look at the economic indicators," Dr. Leona Baumgartner told us. "In some of our rural areas and city-ghettos, economic conditions have gone from bad to worse." She is the director of the Boston-based Tri-State Regional Medical Program.

Indeed, in every part of the country, people's state of health seems to be linked with their economic and social well-being.

*Those Incredible Centenarians*
*. . . here are their "secrets" for living to age 100*

At age 100-plus, Joseph DeMuth of Glendale, Calif., has outlived three doctors, two attorneys and his dentist. A carpenter by trade, he made local headlines 11 or 12 years ago, when he was only 90, by making hundreds of pairs of crutches, donating them to hospitals and charitable organizations.

He has a medicare card, but hasn't used it yet.

Driving past her place in Northumberland, Penna., Mrs. Margaret Heckert's family doctor discovered her climbing a cherry tree without a ladder. "Hey, that's no place for a 95-year-old," he shouted. "You come right down from there."

She did, and then invited her doctor into her kitchen for a big wedge of cherry pie she'd baked earlier that day. Mrs. Heckert told an interviewer that story shortly before her 100th birthday.

Mrs. Heckert and Mr. DeMuth are more or less typical of a most atypical group—the nation's centenarians. Nearly 7,000 of these men and women who have passed age 100 are currently carried on the rolls of the Social Security Administration. And their numbers are growing, an SSA spokesman told us. "Last year, we listed only about 5,200 centenarians."

How does one live to age 100? Many ultra-old timers would agree with Augustus Grant's explanation for his longevity. Born in Snead's Ferry, N. C., where he still lives, he was a farmer until he was 97, when he semi-retired. Semi-retirement means he still works his orchard of apple and pear trees.

"I never used alcoholic beverages, tobacco or carbonated drinks," he says. "I've always eaten regular meals and gotten plenty of sleep. Also, it doesn't hurt to attend church and have good clean habits.

"Now take my brother," he adds with a mischievous grin. "He never took care of himself—and he only lived to be 95!"

Plenty of centenarians would side with Mr. Grant's brother. "I violated every rule of health I know and conformed to none," declares Lee Greer of Pound, Va. A physician would likely panic if his heart patient started out the day as Mr. Greer does. Breakfast consists of three eggs, several slices of bacon, and at least two slices of toast—cholesterol galore.

Apparently, life-long robust health is not a requirement of long life. Thomas Harker of Mt. Holly, N. J., says he weighed 2 pounds when he was born and "I was never strong or healthy." John F. Parrish of Fairland, Ind., weighed 14 pounds at birth. He attributes his longevity to the many years he lived in sunny California.

Mrs. Ida Stillwell remembers the big parade in

*Reprinted from a publication of the AMA.

Chicago that welcomed General Grant from a round-the-world trip. She reports that she was in poor health until about 20 years ago. Since then she has enjoyed excellent health.

Mrs. Ina Braucher of Altoona, Penn., married a Pennsylvania farmer and says "I've been a farmer all my life." Her secret of longevity: "I always worked hard, kept busy and lived moderately." She also gives much of the credit to her physician, Dr. Joseph Tushim, who has looked after her health for over 25 years.

On the other hand, Swedish-born Alexis Ferm of Fairhope, Alabama, attributes his long life to the fact that he has never taken drugs of any kind—not even aspirin.

*Meet Charlie Smith . . .*

. . . oldest living American, born in Liberia. Charlie's birth date—July 4, 1842—was documented in 1854 when, at age 12, he was sold at a New Orleans slave auction to a Texas rancher. He was 21 when the Emancipation Proclamation was signed, and 113 when he retired from his work in a Florida citrus grove. His employer felt that Charlie was "getting too old" to climb trees. (His age was again verified when he applied for social security benefits.)

At age 130, he runs a small candy shop in Bartow, Florida. "I just try to keep busy, stay healthy and do what the Lord wants me to," he says.

Like Mr. Ferm, Swan Johnson of Beaumont, Calif., came to the U. S. from Sweden as a small child. He worked for 23 years as a hoisting engineer, hoisting steel in building construction, without having an accident involving fatalities. That was a record at the time. He reckons he reached 100 by working hard, getting plenty of sleep, having a good sense of humor, and moderation in eating and drinking.

Mr. Johnson gave up smoking at age 97, "to protect my health."

David Orso, who lives with his daughter in Dorchester, Mass., uses his social security check to buy his pipe tobacco and stogie cigars. Italian born, Mr. Orso enjoys having a glass of wine with his meals. He walks quite a bit and works in his garden.

Another heavy smoker is Chief William Red Fox, a Sioux. He smokes 18 cigars a day, "but I don't inhale." Though he is employed by the public relations department of Wilson & Co., a large meat packing firm, he doesn't eat much meat. "But I like seafood and fresh vegetables."

Mrs. Elizabeth Randall of Greensburg, Kansas, may be an ardent consumer of the meat products Chief Red Fox promotes. Though she doesn't get about by herself anymore, she likes to be driven to town to get a hot dog. Her doctor advised her not to salt her food so heavily, "and I told him he won't live as long as I have, so don't try to tell me how to eat."

Her fellow Kansan, Charles Testard of Wichita, is another meat eater. "I like rare steak and meat and potatoes of any kind," he says.

Mrs. Bessie Boone abstains from eating beef and fish. She lives in Apex, N. C., near the farm where her mother was a slave. Her preferred diet consists of fatback, collards, turnips and cabbage.

Leslie Carpenter, who lives near his son in Rochester, Ind., attributes his long life to eating fat pork—"I love fat pork." And Mrs. Adelheid Schuhnecht of Beaver Dam, Wisc., recalls that "we ate good—a bag of potatoes a week."

For more than 60 years Canton-born Lee Chau owned and operated one of the largest Chinese stores in Hilo, Hawaii. The business was twice washed out—literally—by tidal waves. Except for an occasional rheumatism attack, he is in very good health—a condition he attributes to his rigid time schedule. He eats at 7 a.m., 11 a.m. and 5:30 p.m. and allows no interference with his meals.

He goes to sleep at exactly 8 p.m. and arises at 2 a.m. Then he meditates yoga style for two hours, exercises one hour, sleeps one hour, and is up at 6 a.m. to prepare breakfast.

A native of Smyth County, Va., Mrs. Lillie Pickle has 53 grandchildren, 114 great-grandchildren and 22 great-great-grandchildren. She reckons that "dipping snuff" hasn't stunted her growth.

Mrs. Tekla Skraba of Norwich, Conn., who was born in Poland, reckons that a little wine or beer doesn't hurt, either.

"I'll tell you one thing," Burrel Falkner of Fernbank, Alabama, told an interviewer. "I always tried to go with the prettiest girls I could find." Several other centenarians expressed an equally lively interest in the opposite sex. Joseph Forbear of Shelby, Mich., remarried at age 90. And Mary Parks of Cairo, W. Va., admits she has an 80-year-old "boy friend."

"Pick your grandparents carefully," was the suggestion of John Bartol of Princeton, Wisc. He had two who lived beyond 100 years.

Longevity seemed to run in other families, too. Mrs. Jennie Schultz of Daytona Beach has five living sisters—the *youngest* of whom is 88 years old. And at Port Wentworth, Ga., Mrs. Sedonia Faivre reports that her mother *first voted* at age 100.

Is there really a "secret" to attaining long life? Most 100-year-olds seem to have these traits in common: an easy-going disposition, a quick sense of humor and a desire to keep as busy—physically and mentally—as circumstances permit.

In addition, a clear majority claimed to have been lifelong church goers.

However, Joshua Green of Seattle may have identified the true secret. "The closer you come to age 100," he observed, "the more careful you are to reach it."

# Book Reviews

**LEARNING MEDICAL TERMINOLOGY STEP BY STEP,** by Clara Gene Young and James D. Barger. The C. V. Mosby Company, St. Louis, Missouri. 1967. Pp. 327. Price $7.50.

This book is designed to be used by paramedical personnel as a reference tool and as a text for a formal training course. It can also be used for self-instruction. The book begins with the first three chapters devoted to the breaking-down of medical terms into their components—roots, prefixes and suffixes. The Greek and Latin derivations are also shown. The fourth chapter is an introduction to the general structure of the body. The remainder of the book is a review of the various systems of the body such as muscular, circulatory, etc. This reviewer felt that the book might be a little too detailed for independent self-study but that it would be an excellent text for a formal course. However, my secretary has been reading this book herself and she is delighted with it.

H. Biemann Othersen, Jr., M. D.

---

**LUMBAR DISC DISEASE**, A Twenty-Year Clinical Follow-up Study, edited by Blaine S. Nashold, Jr., M. D., and Zdenek Hrubec, Sc.D. The C. V. Mosby Company, Publisher, 1971. Pp. 139. $16.50.

Lumbar disc disease is a complicated and often perplexing problem to the clinician. This monograph does little, if anything, to assist the practitioner—be he orthopedist or neurosurgeon. As the authors state in their preface: "A major goal of this work—to throw light on the life history of the disease—was only partly realized, and we advanced little in the art of prognosis."

As stated by the authors, the study was originated by Dr. Barnes Woodhall, who did such a magnificent post war study on peripheral nerve injuries. Dr. Woodhall, however, was active only in the early phases of this project.

Of the 1,123 patients studied, 395 underwent surgical intervention for herniated nucleus pulposus during their first admission and 728 did not. Multiple parameters relative to family history, clinical findings and physical signs, disability evaluation, and even x-ray studies were subjected to statistical analysis (as was the reader) by record and x-ray review of the initial hospitalizations and again through new evaluations and x-rays 20 years later at various examining centers throughout the country.

Dr. Charles B. Wilson, a member of the editorial committee, aptly summarizes his chapter on Clinical Signs By Physical Examination: "Viewed only in terms of results, the surgical group appeared to fare no better than the group that did not undergo operation. However, since the surgical group was characterized by failure to improve with conservative treatment, their disease may have been different from or more severe than the disease of patients who responded to nonsurgical measures. On the other hand, the persistence of abnormal findings might be interpreted as a reason for reexamining indications for surgical versus nonsurgical treatment."

One quite valuable part of the text would appear to be its 26 pages and approximately 900 references of bibliography from 1945 through 1970. In addition, future investigators might find the details of the study codified in the 34 pages of Appendix of some interest.

Burdened as he is by the overwhelming volume of medical publications, this study would appear to hold little of value for the practicing specialist.

Herbert B. Niestat, M. D.

## DEATHS

### DR. G. B. SIBERT, JR.

Dr. George Brown Sibert, Jr., 35, prominent Sumter doctor, died June 29 at the home of his parents after a lengthy illness. Dr. Sibert was a graduate of the Medical University of South Carolina and served as a Navy flight surgeon. After completing his military service, he was a member of the staff of the South Carolina State Hospital.

### DR. S. W. BROWN

Dr. Sumner Wildmon Brown, 63, of McCormick, died July 11 at Self Memorial Hospital in Greenwood. Dr. Brown graduated from Tulane University School of Medicine and was a member of the American Academy of General Practice and the Greenwood-McCormick-Abbeville Medical Society. He had practiced medicine in McCormick for the past 19 years.


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**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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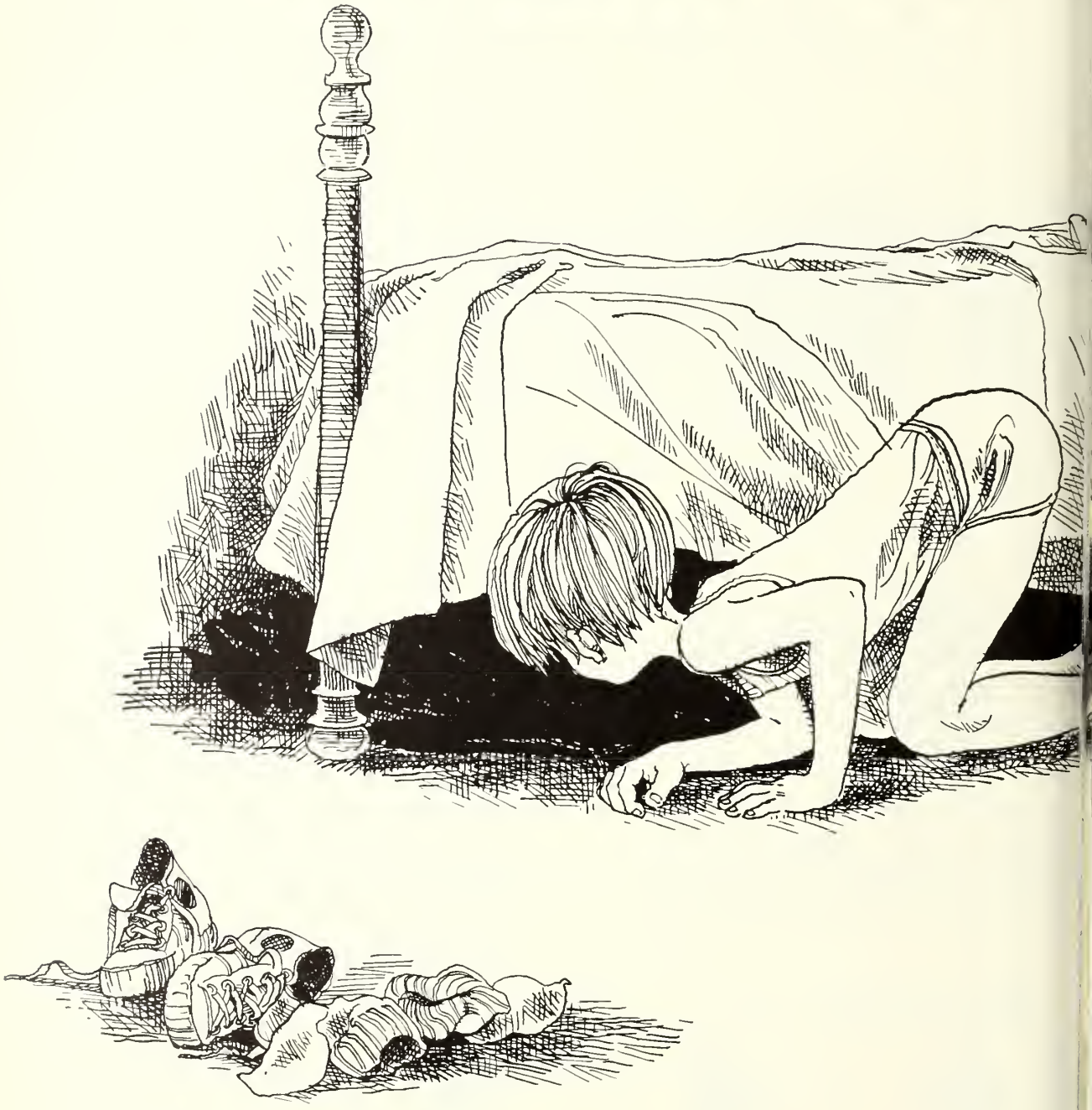
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**Indications.** For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

**Warnings.** *Usage in Pregnancy:* Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

**Precautions.** Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with pre-existing liver dysfunction.

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*gs:* Age, weight, dosage, duration of therapy, ce of concomitant diseases, and concurrent chemotherapy affect incidence of toxic reac- Carefully instruct and observe the individual especially the aging (forty years and over) ve increased susceptibility to the toxicity of the se lowest effective dosage. Weigh initially ictable benefits against potential risk of severe, tal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

*Precautions:* The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

*Adverse Reactions:* This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angiitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement.
(B) 98-146-800-E

*For complete details, including dosage, please see full prescribing information.*

GEIGY Pharmaceuticals
Division of CIBA-GEIGY Corporation
Ardsley, New York 10502

TA-8356-9



# a new outlook in chronic pain

## of moderate to severe intensity

Though Talwin® Tablets, brand of pentazocine (as hydrochloride), can be compared to codeine in analgesic efficacy, Talwin is not subject to narcotic controls. Patients receiving Talwin Tablets for prolonged periods face fewer of the consequences you've come to expect with meperidine or codeine. And that, in the long run, can mean a better outlook for your chronic-pain patient.

**Talwin Tablets are:**

- **Comparable to codeine in analgesic efficacy:** one 50 mg. Talwin Tablet appears equivalent in analgesic effect to 60 mg. (1 gr.) of codeine. Onset of significant analgesia usually occurs within 15 to 30 minutes. Analgesia is usually maintained for 3 hours or longer.
- **Tolerance not a problem:** tolerance to the analgesic effect of Talwin Tablets has not been reported, and no significant changes in clinical laboratory parameters attributable to the drug have been reported.
- **Dependence rarely a problem:** during three years of wide clinical use, only a few cases of dependence have been reported. In prescribing Talwin for chronic use, the physician should take precautions to avoid increases in dose by the patient and to prevent the use of the drug in anticipation of pain rather than for the relief of pain.
- **Not subject to narcotic controls:** convenient to prescribe—day or night—even by phone.
- **Generally well tolerated by most patients:** infrequently cause decrease in blood pressure or tachycardia; rarely cause respiratory depression or urinary retention; seldom cause diarrhea or constipation. If dizziness, lightheadedness, nausea or vomiting are encountered, these effects tend to be self-limiting and to decrease after the first few doses. (See last page of this advertisement for a complete discussion of adverse reactions and a brief discussion of other Prescribing Information.)

50 mg. Tablets

**Talwin®**

brand of

**pentazocine** (as hydrochloride)

the long-range analgesic

# a new outlook in chronic pain

## of moderate to severe intensity



**Contraindications:** Talwin, brand of pentazocine (as hydrochloride), should not be administered to patients who are hypersensitive to it.

**Warnings:** *Head Injury and Increased Intracranial Pressure.* The respiratory depressant effects of Talwin and its potential for elevating cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions, or a pre-existing increase in intracranial pressure. Furthermore, Talwin can produce effects which may obscure the clinical course of patients with head injuries. In such patients, Talwin must be used with extreme caution and only if its use is deemed essential.

*Usage in Pregnancy.* Safe use of Talwin during pregnancy (other than labor) has not been established. Animal reproduction studies have not demonstrated teratogenic or embryotoxic effects. However, Talwin should be administered to pregnant patients (other than labor) only when, in the judgment of the physician, the potential benefits outweigh the possible hazards. Patients receiving Talwin during labor have experienced no adverse effects other than those that occur with commonly used analgesics. Talwin should be used with caution in women delivering premature infants.

*Drug Dependence.* There have been instances of psychological and physical dependence on parenteral Talwin in patients with a history of drug abuse and, rarely, in patients without such a history. Abrupt discontinuance following the extended use of parenteral Talwin has resulted in withdrawal symptoms. There have been a few reports of dependence and of withdrawal symptoms with orally administered Talwin. Patients with a history of drug dependence should be under close supervision while receiving Talwin orally.

In prescribing Talwin for chronic use, the physician should take precautions to avoid increases in dose by the patient and to prevent the use of the drug in anticipation of pain rather than for the relief of pain.

*Acute CNS Manifestations.* Patients receiving therapeutic doses of Talwin have experienced, in rare instances, hallucinations (usually visual), disorientation, and confusion which have cleared spontaneously within a period of hours. The mechanism of this reaction is not known. Such patients should be very closely observed and vital signs checked. If the drug is reinstituted it should be done with caution since the acute CNS manifestations may recur.

*Usage in Children.* Because clinical experience in children under 12 years of age is limited, administration of Talwin in this age group is not recommended.

*Ambulatory Patients.* Since sedation, dizziness, and occasional euphoria have been noted, ambulatory patients should be warned not to operate machinery, drive cars, or unnecessarily expose themselves to hazards.

**Precautions:** *Certain Respiratory Conditions.* Although respiratory depression has rarely been reported after oral administration of Talwin, the drug should be administered with caution to patients with respiratory depression from any cause, severe bronchial asthma and other obstructive respiratory conditions, or cyanosis.

*Impaired Renal or Hepatic Function.* Decreased metabolism of the drug by the liver in extensive liver disease may predispose to accentuation of side effects. Although laboratory tests have not indicated that Talwin causes or increases renal or hepatic impairment, the drug should be administered with caution to patients with such impairment.

*Myocardial Infarction.* As with all drugs, Talwin should be used with caution in patients with myocardial infarction who have nausea or vomiting.

*Biliary Surgery.* Until further experience is gained with the effects of Talwin on the sphincter of Oddi, the drug should be used with caution in patients about to undergo surgery of the biliary tract.

*Patients Receiving Narcotics.* Talwin is a mild narcotic antagonist. Some patients previously receiving narcotics have experienced mild withdrawal symptoms after receiving Talwin.

*CNS Effect.* Caution should be used when Talwin is administered to patients prone to seizures; seizures have occurred in a few such patients in association with the use of Talwin although no cause and effect relationship has been established.

**Adverse Reactions:** Reactions reported after oral administration of Talwin include *gastrointestinal:* nausea, vomiting; infrequently constipation; and rarely abdominal distress, anorexia, diarrhea *CNS effects:* dizziness, lightheadedness, sedation, euphoria, headache; infrequently weakness, disturbed dreams, insomnia, syncope visual blurring and focusing difficulty, hallucinations (see *Acute CNS Manifestations* under WARNINGS); and rarely tremor, irritability, excitement, tinnitus. *Autonomic:* sweating; infrequently flushing; and rarely chills. *Allergic:* infrequently rash; and rarely urticaria, edema of the face. *Cardiovascular:* infrequently decrease in blood pressure, tachycardia. *Other:* rarely respiratory depression, urinary retention.

**Dosage and Administration:** *Adults.* The usual initial adult dose is 1 tablet (50 mg.) every three or four hours. This may be increased to 2 tablets (100 mg.) when needed. Total daily dosage should not exceed 600 mg.

When antiinflammatory or antipyretic effects are desired in addition to analgesia, aspirin can be administered concomitantly with Talwin.

*Children Under 12 Years of Age.* Since clinical experience in children under 12 years of age is limited, administration of Talwin in this age group is not recommended.

*Duration of Therapy.* Patients with chronic pain who have received Talwin orally for prolonged periods have not experienced withdrawal symptoms even when administration was abruptly discontinued (see WARNINGS). No tolerance to the analgesic effect has been observed. Laboratory tests of blood and urine and of liver and kidney function have revealed no significant abnormalities after prolonged administration of Talwin.

**Overdosage:** *Manifestations.* Clinical experience with Talwin overdosage has been insufficient to define the signs of this condition.

*Treatment.* Oxygen, intravenous fluids, vasopressors, and other supportive measures should be employed as indicated. Assisted or controlled ventilation should also be considered. Although nalorphine and levallorphan are *not* effective antidotes for respiratory depression due to overdosage or unusual sensitivity to Talwin, parenteral naloxone (Narcan®, available through Endo Laboratories) is a specific and effective antagonist. If naloxone is not available, parenteral administration of the analeptic, methylphenidate (Ritalin®) may be of value if respiratory depression occurs.

Talwin is not subject to narcotic controls.

**How Supplied:** Tablets, peach color, scored. Each tablet contains Talwin (brand of pentazocine) as hydrochloride equivalent to 50 mg base. Bottles of 100.

Winthrop Winthrop Laboratories, New York, N. Y. 10016 (1583)

**50 mg. Tablets**

# Talwin®

brand of

## pentazocine (as hydrochloride)

## the long-range analgesic

# Encounter under the Scanning Electron Microscope



## SEM reveals changes in *E. coli* exposed to antibacterial agents

The Scanning Electron Microscope (SEM) is the only instrument which gives 3-dimensional views on a microscopic level. This permits the surface morphology of microorganisms to be observed in detailed perspective. Changes in surface morphology of *E. coli* exposed to various antimicrobial agents are seen on the following page. An SEM photomicrograph of normal control *E. coli* appears above.













# Different modes of antibacterial action — Similar changes in morphology

As part of a series of experiments,[1-3] strains of *E. coli* proven susceptible to each antibacterial agent were exposed to 1 MIC of the respective antibacterials for a three-hour period. Included were cell-wall-active drugs, ampicillin and cephalothin; a drug interfering with intracellular protein synthesis, tetracycline; and a chemical agent which acts by interference with para-aminobenzoic acid, sulfamethoxazole.

As seen above, elongation of the bacilli, mid-cell defects and spheroplast-like forms may be appreciated with the SEM technique. These changes in bacterial morphology were similar... regardless of the antibacterial agent used and irrespective of its mechanism of action.

**"At present, the significance of these observations in clinical infection must be considered with caution, but it is hoped that these data will stimulate a reevaluation of present concepts of the nature and role of morphological variants of bacteria exposed to a variety of antibacterial factors."[2]**

**It should be noted that no clinical conclusions can be drawn from this study, as it is not always possible to extrapolate *in vitro* data to humans.**

**References: 1.** Klainer, A. S.; Fass, R. J., and Perkins, R. L.: Scientific Exhibit presented at the 25th American Medical Association Clinical Convention, New Orleans, La., Nov. 28-Dec. 1, 1971. **2.** Klainer, A. S., and Perkins, R. L.: *Antimicrob. Agents Chemother., 1*:164, 1972. **3.** Klainer, A. S.: Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

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**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Acute, recurrent or chronic nonobstructed urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms. **Note: Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections.** Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

**Contraindications:** Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

**Warnings:** Safety during pregnancy has not been established. Sulfonamides should not be used for group A be hemolytic streptococcal infections and will not eradicate prevent sequelae (rheumatic fever, glomerulonephritis) of su infections. Deaths from hypersensitivity reactions, agranulocyt sis, aplastic anemia and other blood dyscrasias have been r ported and early clinical signs (sore throat, fever, pallor, purpu or jaundice) may indicate serious blood disorders. Frequent Cl and urinalysis with microscopic examination are recommend during sulfonamide therapy. Insufficient data on children unc six with chronic renal disease.

**Precautions:** Use cautiously in patients with impaired ren or hepatic function, severe allergy, bronchial asthma; in glucos 6-phosphate dehydrogenase-deficient individuals in whom dos related hemolysis may occur. Maintain adequate fluid intake prevent crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias* (agranulocytos

# Encounter in Clinical Practice

## Control of primary bacterial offenders

Antibacterial Gantanol® (sulfamethoxazole) controls susceptible strains of *E. coli* and other gram-negative and gram-positive organisms often implicated in acute nonobstructed pyelonephritis and cystitis.

## Prompt antibacterial blood and urine levels

In from 2 to 3 hours after the initial 2-Gm adult dose, antibacterial levels are present in both the blood and urine.

## B.I.D./T.I.D. dosage for around-the-clock coverage

Subsequent 1-Gm doses provide up to 12 hours of antibacterial coverage. More severe u.t.i. may require a q. 8 h. dosage regimen. Either schedule provides coverage during the waking and sleeping hours—especially important during hours of sleep when normal urinary retention tends to favor bacterial proliferation.

## Also effective in nonobstructed chronic and recurrent u.t.i.

It is not uncommon for the elderly and the debilitated to develop chronic and/or recurrent nonobstructed urinary tract infections such as pyelonephritis and cystitis. Such cases often respond satisfactorily to Gantanol. The increasing frequency of resistant organisms is a limitation of usefulness of antibacterial agents including sulfonamides, especially in chronic or recurrent u.t.i.

## Your Option: Tablets or Suspension

Either dosage form—the Tablets or the pleasant-tasting, cherry-flavored Suspension—can provide the dependable antibacterial activity necessary to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement may usually be expected in 24 to 48 hours. The usual precautions with sulfonamide therapy should be observed, including adequate fluid intake. Gantanol (sulfamethoxazole) is generally well tolerated with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended.

**In nonobstructed cystitis and pyelonephritis due to susceptible organisms**

# Gantanol®
# (sulfamethoxazole)
# Basic Therapy

---

ic anemia, thrombocytopenia, leukopenia, hemolytic ane-
urpura, hypoprothrombinemia and methemoglobinemia);
fc *reactions* (erythema multiforme, skin eruptions, epider-
ecrolysis, urticaria, serum sickness, pruritus, exfoliative
atitis, anaphylactoid reactions, periorbital edema, conjunc-
and scleral injection, photosensitization, arthralgia and
ic myocarditis); *gastrointestinal reactions* (nausea, emesis,
ninal pains, hepatitis, diarrhea, anorexia, pancreatitis and
titis); *CNS reactions* (headache, peripheral neuritis, men-
pression, convulsions, ataxia, hallucinations, tinnitus, ver-
nd insomnia); *miscellaneous reactions* (drug fever, chills,
nephrosis with oliguria and anuria, periarteritis nodosa and
henomenon). Due to certain chemical similarities with
goitrogens, diuretics (acetazolamide, thiazides) and oral
lycemic agents, sulfonamides have caused rare instances
ter production, diuresis and hypoglycemia as well as thy-
roid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

**Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age** (except adjunctively with pyrimethamine in congenital toxoplasmosis).

*Usual adult dosage:* 2 Gm (4 tabs or teasp.) initially, then 1 Gm *b.i.d.* or *t.i.d.* depending on severity of infection.

*Usual child's dosage:* 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs *b.i.d.* Maximum dose should not exceed 75 mg/kg/24 hrs.

**Supplied:** Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

**DBI® phenformin HCl Tablets of 25 mg. DBI-TD® phenformin HCl Timed-Disintegration Capsules of 50 and 100 mg.**

*Indications:* Stable adult diabetes mellitus; sulfonylurea failures, primary and secondary; adjunct to insulin therapy of unstable diabetes mellitus.
*Contraindications:* Diabetes mellitus that can be regulated by diet alone; juvenile diabetes mellitus that is uncomplicated and well regulated on insulin; acute complications of diabetes mellitus (metabolic acidosis, coma, infection, gangrene); during or immediately after surgery where insulin is indispensable; severe hepatic disease; renal disease with uremia; cardiovascular collapse (shock); after disease states associated with hypoxemia
*Warnings:* Use during pregnancy is to be avoided.
*Precautions:* 1. *Starvation Ketosis:* This must be differentiated from "insulin lack" ketosis and is characterized by ketonuria which, in spite of relatively normal blood and urine sugar, may result from excessive phenformin therapy, excessive insulin reduction, or insufficient carbohydrate intake. Adjust insulin dosage, lower phenformin dosage, or supply carbohydrates to alleviate this state. **Do not give insulin without first checking blood and urine sugar.**
2. *Lactic Acidosis:* This drug is not recommended

# Why go to the islets

Let's say you've decided that diet alone won't work in your adult-onset, nonketotic diabetic.

You're considering oral therapy for a new patient. DBI-TD or a sulfonylurea. Which?

Both lower blood sugar. But here's why DBI-TD, which is not a sulfonylurea, may be important to the dieting diabetic.

- Sulfonylureas promote release of insulin.
- Insulin is lipogenic and helps transport glucose into adipose tissue.
- Overweight patients frequently have normal or high levels of endogenous insulin.
- DBI-TD lowers blood sugar without stimulating insulin secretion from the pancreas.

Usual dosage: one 50-mg. capsule with breakfast may be effective, or a second capsule may be given with the evening meal.

**DBI-TD® Geigy**
phenformin HCl

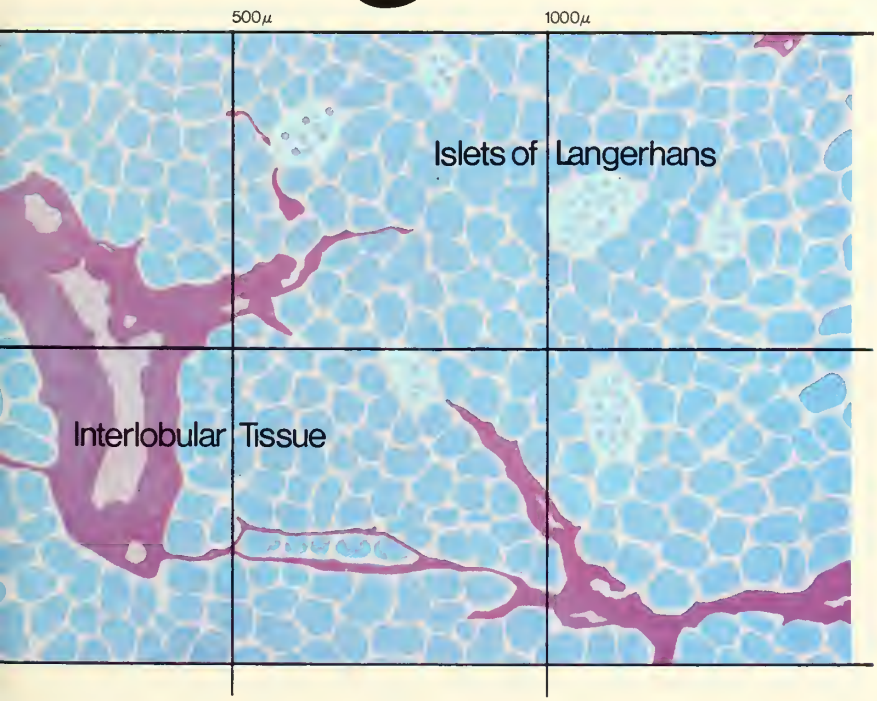
**lowers blood sugar without raising blood insulin**

esence of azotemia or in any clinical
that predisposes to sustained hypoten-
could lead to lactic acidosis. To
ate lactic acidosis from ketoacidosis,
determinations of ketones in the blood
should be made in diabetics previously
on phenformin, or phenformin and
ho have become unstable. If electrolyte
e is suspected, periodic determinations
so be made of electrolytes, pH, and the
ruvate ratio. The drug should be with-
d insulin, when required, and other
e measures instituted immediately upon
the appearance of any metabolic acidosis.
3. *Hypoglycemia:* Although hypoglycemic reactions are rare when phenformin is used alone, every precaution should be observed during the dosage adjustment period particularly when insulin or a sulfonylurea has been given in combination with phenformin.
*Adverse Reactions:* Principally gastrointestinal; unpleasant metallic taste, continuing to anorexia, nausea and, less frequently, vomiting and diarrhea. Reduce dosage at first sign of these symptoms. In case of vomiting, the drug should be immediately withdrawn. Although rare, urticaria has been reported, as have gastrointestinal symptoms such as anorexia, nausea and vomiting following excessive alcohol intake.
(B) 98-146-103-D (6/72)

*For complete details, including dosage, please see full prescribing information.*

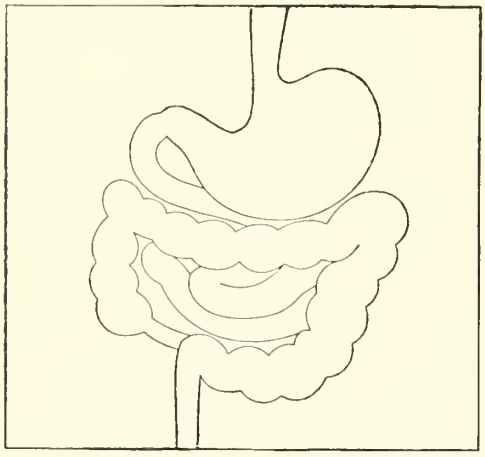
GEIGY Pharmaceuticals
Division of CIBA-GEIGY Corporation
Ardsley, New York 10502

# f Langerhans?




Before using DBI-TD or any oral hypoglycemic, please read the prescribing information concerning dosage, warnings, contraindications, precautions and adverse reactions.

# in "Gasspastic" conditions



The GI tract in spasm is commonly a "gas trap."

Sidonna® is formulated to release entrapped gas, as well as to provide antispasmodic/sedative effects.

In addition to the traditional combination of belladonna alkaloids and butabarbital (warning: may be habit forming.), Sidonna contains simethicone—a non-systemic defoaming agent that "lyses" gas bubbles on contact.

Sidonna has the ability to relieve GI spasm, pain **and gas** in the irritable bowel syndrome, spastic colon, pylorospasm, gastroenteritis, gastritis, nausea, nervous indigestion, or gastric and duodenal ulcer.

**Sidonna can calm GI spasm...control anxiety...and release entrapped GI gas from the system.**

Sidonna can do more for your "gasspastic" patient. Try him on 1 or 2 tablets before meals and at bedtime.

# Sidonna®

Each scored tablet contains: Specially activated simethicone 25 mg.; hyoscyamine sulfate 0.1037 mg., atropine sulfate 0.0194 mg., hyoscine hydrobromide 0.0065 mg. (equivalent to belladonna alkaloids [as bases] 0.1049 mg.) and butabarbital sodium N.F. 16 mg. (Warning: May be habit forming.)

# can do more

**Contraindications:** Anticholinergics should not be used in patients with glaucoma, known prostatic hypertrophy, or pyloric obstruction. Urinary retention may indicate the presence of prostatic hypertrophy. If it occurs, the dose should be reduced or the drug withdrawn. Also contraindicated in patients with known hypersensitivity to one of the components.

**Side Effects:** Dryness of the mouth, blurred vision, dysuria, skin rash, constipation or drowsiness may occur.

**Reed & Carnrick**/ Kenilworth, New Jersey 07033

# Survival of the fittest




Remarkably well tolerated.
Highly predictable.
Prompt, smooth, gentle action.
Saves your patients money.

## Butisol SODIUM®
## (SODIUM BUTABARBITAL)

Tablets 15 mg., 30 mg.
Elixir 30 mg./5 cc. (alcohol 7%)

**Indications:** Useful as a daytime sedative when mild sedation is required for relief of symptoms of anxiety or tension resulting from emotional, physical, or situational stress.
**Contraindications:** Porphyria or sensitivity to barbiturates. **Warning:** May be habit forming.
**Precautions:** Exercise caution in moderate to severe hepatic disease. Elderly or debilitated patients may react with marked excitement or depression. **Adverse Reactions:** Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and systemic disturbances are seldom seen.
**Usual Adult Dosage:** For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d.
**Also available:** BUTICAPS® [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg.,

McNeil Laboratories, Inc., Fort Washington, Pa. 19034

McNEIL

# Pinworm therapy is often a family affair





**Contraindications:** History of hypersensitivity to thiabendazole.
**Warnings:** If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.
**Precautions:** Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
**Adverse Reactions:** Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live Ascaris in the mouth and nose. Hypersensitivity reactions

# A New Dosage Form:

## Chewable Tablets 500 mg

## Mintezol®

(THIABENDAZOLE | MSD)



So easy to take
everyone in the family
can keep to the
regimen you prescribe

...ude: fever, facial flush, chills, conjunctival injection, ...ioedema, anaphylaxis, skin rashes, erythema multiforme ...luding Stevens-Johnson syndrome), and lymphadenopathy.
**...plied:** Chewable tablets, containing 500 mg thiabendazole, ...oxes of 36, strip packaged, individually foil wrapped; ...spension, containing 500 mg thiabendazole per 5 cc, in ...tles of 120 cc.

*...more detailed information, consult your MSD representa... or see full prescribing information. Merck Sharp & ...hme, Division of Merck & Co., Inc., West Point, Pa. 19486*

addendum

MSD MERCK SHARP & DOHME

## INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infections. Dosages are weight related. For your convenience, the information in the weight-dose chart below is included in the full prescribing information and in the 1973 edition of PDR.
*The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).*
MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.
The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

| WEIGHT (lb) | EACH DOSE (g) | TABLETS |
|---|---|---|
| 25 | 0.25 | ½ |
| 50 | 0.5 | 1 |
| 75 | 0.75 | 1½ |
| 100 | 1.0 | 2 |
| 125 | 1.25 | 2½ |
| 150 & over | 1.5 | 3 |

The regimen for each indication follows:

| INDICATION | REGIMEN | COMMENTS |
|---|---|---|
| Pinworm disease | Two doses per day for 1 day. Repeat in 7 days.<br><br>This regimen is designed to reduce the risk of reinfection. | If this is not practical, give 2 doses per day for 2 successive days. |
| Threadworm,* large roundworm,* hookworm,* and whipworm* disease | Two doses per day for 2 successive days. | A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected. |
| Creeping eruption | Two doses per day for 2 successive days. | If active lesions are still present 2 days after completion of therapy, a second course is recommended. |
| Symptoms of trichinosis* during the invasive phase of the disease | Two doses per day for 2 to 4 successive days according to the response of the patient. | The optimal dosage for the treatment of trichinosis has not been established. |

*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

# A Blue Shield Report

## MERGER WILL IMPROVE SERVICE TO PHYSICIANS AND HOSPITAI

At the September meetings of the Directors of Blue Cross and Blue Shield, merger of the Plans into a sing corporation was approved. It's effective date will be January 1, 1973. The new Board of Directors w include strong representation for physicians in private practice. Principal effect of the merger will elimination of administrative procedures that are repeated for either Blue Cross or Blue Shield after alread done for the other of the two.

Freed of those burdens, the manual and computer processing capabilities of the Plan will be more heavi committed to claims processing and payment, timely claims reports and response. The goal has been set pay all benefits within five or less working days from receipt of the claim.

## USUAL CHARGE ALLOWANCES UPDATED WITH 1971 CHARGE DAT

Blue Shield's benefit payments for subscribers with Usual, Customary and Reasonable Fee Contracts a determined from a profile of charges that were made by each physician in the State. The charges a accummulated from all Blue Shield claims. A computer determines each physician's usual charge for ea service or procedure, and the prevailing charge among all physicians for each procedure. Paid benefits a equal to charges, not to exceed the usual and prevailing determination. Now all such usual and prevaili charge determinations have been reconstructed on the basis of physicians' actual charges in 1971. Data c charges made in prior years has been purged.

The result is benefit payments at higher levels, to the extent permitted by price regulations.

## WORKSHOPS TO HELP SPEED AND ACCURACY OF CLAIM PAYMENT

Blue Shield workshops for physicians and medical assistants are being conducted throughout the State fro mid October through early November. Twelve day-long sessions are planned. They will be held in Anderso Spartanburg, Rock Hill, Greenville, Florence, Myrtle Beach, Charleston, Columbia, Orangeburg and Aike

Medicare claims and payment processes will be explained and illustrated during part of each workshop. Bl Shield contracts, claims and payments will be covered separately in the same workshops.

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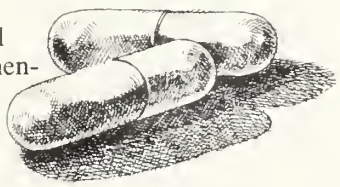
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# THE TEMPOROMANDIBULAR JOINT PAIN DYSFUNCTION SYNDROME

RICHARD L. ALPERT, D. D. S.
I Chick Springs Rd., Greenville, S. C.

One of the most perplexing problems in medicine and dentistry is the patient who presents with atypical facial and head pain. The physician is often the first one to see the patient with a temporomandibular joint problem. Most people do not relate this pain to a dental cause.

The physician-dentist team should function to rule out any contributing factors such as abscessed teeth, split teeth, periodontal disease, sinusitis, middle-ear infection, tumors, ascorbic acid deficiency, hormonal and electrolyte imbalances.

The TMJ syndrome has been grossly misunderstood resulting in much needless and radical treatment. This treatment has been in the form of alcohol injections, injection of steroids and sclerosing solutions into the temporomandibular joints, gasserian ganglion procedures and nerve ressections. The foregoing procedures have been erroneously done *when the TMJ syndrome* has been diagnosed. However, in most instances the TMJ syndrome is *not even diagnosed correctly.* Many times patients have been told that they must "Learn to live with tensions".

Often after extensive medical and dental examinations including EENT evaluation, neurologic examination, and psychiatric consultation, the diagnosis remains the same, i.e. idiopathic or atypical facial neuralgia or migraine of unknown etiology. In medicine and dentistry we often mistakenly diagnose Costen's syndrome. (i.e. the loss of posterior teeth with resultant closure of the bite, allowing the condyles of the temporomandibular joints to press upward and backward toward the ear, impinging on the auriculotemporal nerve, giving rise to deafness, pain, dizziness and ringing in the ears.) Current research proves this wrong. Sicher[1] states that no posterior displacement of the mandibular condyle can possibly impinge on the auriculotemporal nerve. He states that the auriculotemporal nerve crosses the posterior border of the mandible not at the level of the condyle, but much further down, at the level of the mandibular neck.

A simple two-minute procedure can be utilized in the majority of cases to determine whether or not the TMJ syndrome is present in a patient suffering from head and neck pain. Ask the patient to open as wide as possible. Many times the patient with an acute TMJ syndrome has a very limited degree of opening. Using the forefinger press behind the last upper molar tooth and beyond the tuberosity directing the pressure laterally on the soft tissue toward the ear. If the TMJ syndrome is present, the patient will actually

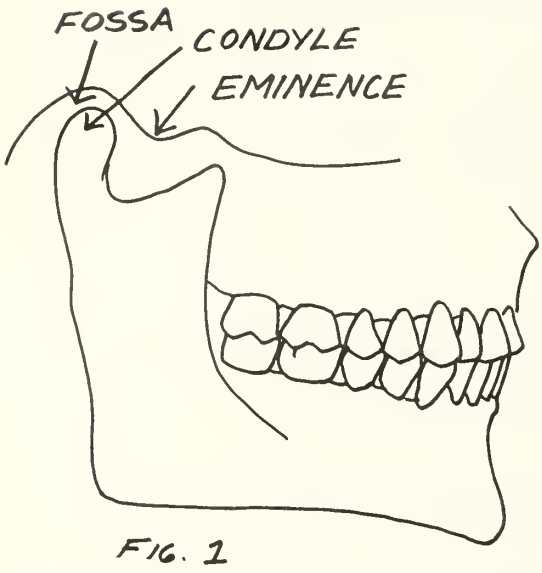



**Fig. 1. This represents the maximum contact of the teeth as might exist if the patient just closes the teeth together.**

wince from light pressure. The pain is coming from the external pterygoid muscle that is in spasm.

Every time the patient swallows, the mandible assumes a distal relationship relative to the maxilla that remains fixed. The mandible is limited in its distal and superior position primarily by the temporomandibular ligaments. The upper and lower teeth are surrounded by proprioceptors that are pressure sensitive. When a person closes the jaws and teeth come together, the proprioceptors surrounding the teeth send impulses to the muscles by way of neural pathways. This is a protective feedback mechanism that dictates to the mandibular musculature to move the mandible away from these areas of pressure. This mechanism operates on a conscious and subconscious level.[2]

The major muscle responsible for moving the mandible away from those pressure areas between the teeth is the external pterygoid muscle. If the upper and lower teeth do not mesh together precisely, the external pterygoid muscles will contract to move the mandible forward or laterally away from these prematurely contacting teeth. This feedback mechanism operates everytime these prematurely contacting surfaces of the teeth come together. This constant contraction results in the muscle contracting around its own blood supply, with eventual muscle fatigue, build-up of noxious waste products and pain.

Bruxism and clenching of the teeth is a subconscious effort on the part of the patient to erase prematurely contacting tooth surfaces. As more teeth wear unevenly the occlusion problem can become more severe. While the majority of TMJ problems are seen in adults, the TMJ syndrome can be present in the adolescent.

The muscles that are involved in mandibular movement are the external pterygoids, internal pterygoids, masseter, temporalis, digastric and hyoid muscles. It is possible for any of these muscles to go into a spasm as a result of bite disharmony.[3] However, the muscles most frequently involved in the TMJ syndrome are the external pterygoids. All of the previously mentioned muscles should be palpated if the TMJ syndrome is suspect.

We must recognize that emotional stress and psychic tension are factors in the TMJ syndrome.[4] Popping, clicking, crepitus of the TMJ and preauricular pain are all symptoms of the TMJ syndrome. Sometimes a patient will complain that the "Jaw slips out of place."

The TMJ problem can be so severe that drugs such as Demerol do not completely control the pain present. If the patient cannot be immediately referred for equilibration of the teeth, place gauze sponges between the upper and lower teeth and have the patient comfortably close. Be certain that the teeth do not make contact for at least thirty minutes. In some instances this simple procedure breaks up the proprioceptive feedback mechanism created when prematurely contacting teeth surfaces come together. The pain will sometimes spontaneously leave. In some instances Vallium, 5 mg. T.I.D., brings about temporary relief of symptoms. If the TMJ syndrome has been positively diagnosed, the dentist should proceed with the necessary treatment. This treatment usually consists of diagnostic casts made from impressions of the upper and lower teeth, radiographs of the

temporomandibular joints if deemed necessary, radiographs of the teeth and complete visual examination of the tempormandibular joints, mouth, teeth and related structures.

The TMJ syndrome cannot be ruled out by merely asking a patient to close the jaws together. Neither can it be ruled out by having a patient close on carbon paper or asking a patient if a tooth feels "High".

The mandible must be carefully guided in a most exacting manner in order to reveal minute prematurely contacting surfaces of the upper and lower teeth. In many individuals there is no patient awareness of these slight discrepancies. In some individuals the slightest pressures can stimulate the external pterygoid contractions, sometimes involving reciprocal muscles resulting in the TMJ syndrome.[5]

In others, the tolerance is such that gross bite disharmony does not trigger the TMJ syndrome but causes loss of teeth due to fractured teeth, bone loss and tooth mobility.

The TMJ syndrome can be resolved by judicious equilibration of the teeth. This is an exacting, precise procedure that consists of shaping of specific areas of the upper and lower teeth that are contacting prematurely. The teeth that have been receiving excess pressures must be constantly re-evaluated.[6] After the initial pressures are removed, the teeth will change position slightly. Additional equilibration is necessary until the teeth remain stable.

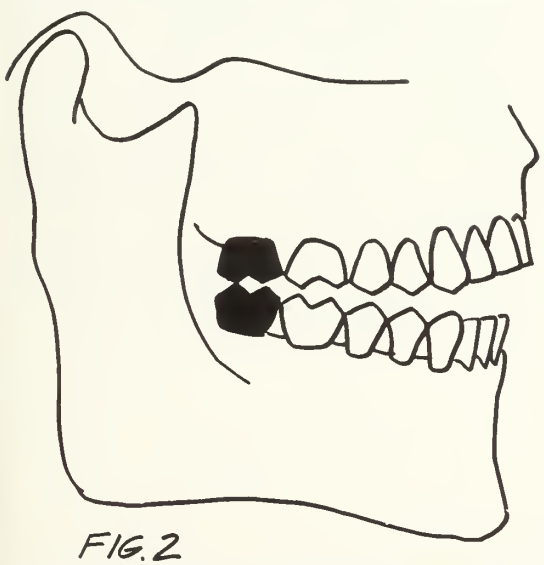



**Fig. 2. This represents an exaggerated example of premature contacts existing between the last molars. This situation would be discernible only after the dentist carefully manipulates the mandible allowing the mandibular condylar heads to seat in the most superior distal position in the fossa. If the patient were asked to "Just close the teeth together" we would likely see the situation in Fig. 1.**

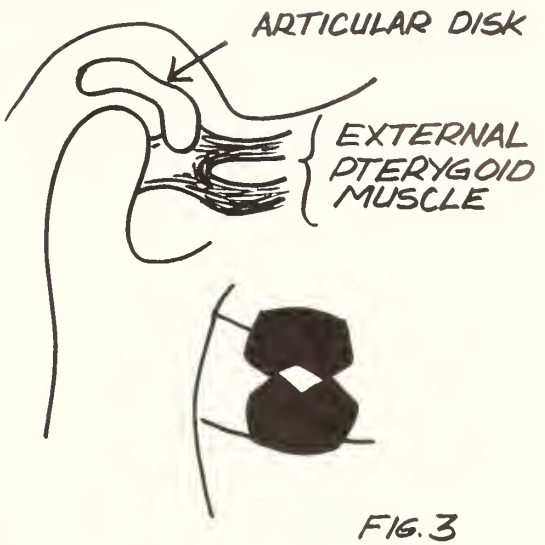



**Fig. 3. If teeth make premature contact as in Fig. 3 the external ptergoid muscles will contract to move the mandible away from these areas of premature contacts.**

If a patient with the TMJ syndrome has only a few remaining teeth, it is necessary to restore the missing teeth with a fixed or removable prosthesis in order to maintain stability. However, this is done after equilibration procedures and only when the patient is free of pain.

Equilibration of the natural dentition is an irreversible procedure. In some instances the dentist may elect to make a removable bite guard. Most bite guards are made to fit over the upper teeth. The bite guard is precisely equilibrated so that the lower teeth make contact with it in an exacting manner. This breaks up the perpetuating proprioceptive feedback mechanism between prematurely contacting teeth.

Isometric muscle exercises of the mandible are recommended occasionally along with other forms of therapy.

It should be emphasized that if a true TMJ syndrome is present, drug therapy, bite

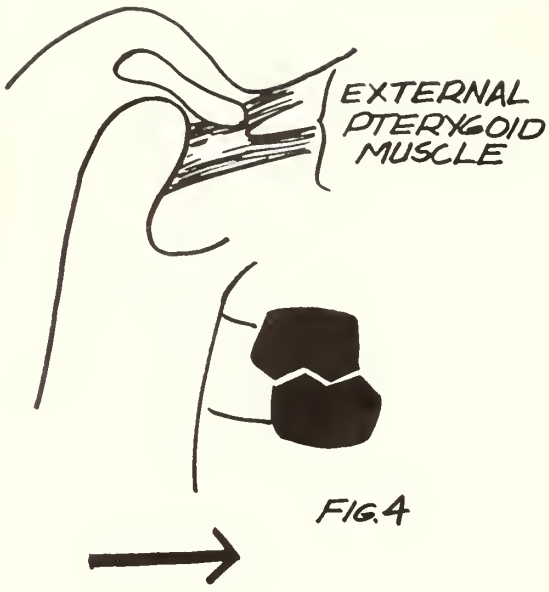



**Fig. 4. As external pherygodis contract, the mandible is pulled anteriorally allowing these teeth to mesh evenly. This constant contraction of the external pterygoids eventually results in these muscles going into spasm giving rise to the classic pain seen in the TMJ syndrome.**

guards and muscle exercises are only intended as supportive procedures.

Occasionally other conditions may be present in a patient who is diagnosed as having a TMJ syndrome. A maxillary sinusitis, for example, may complicate the treatment of the TMJ syndrome. A slight swelling of the Maxillary sinuses man cause a change in position of the maxillary posterior teeth.

In many instances equilibration procedures bring about dramatic spontaneous resolution of the TMJ pain dysfunction syndrome. However, the patient must be re-evaluated to be certain that the teeth have remained in a stable position. There is no way that the dentist can accurately predict the total treatment time required for equilibration procedures. There are some cases that require as much as one or two years of treatment. However, these extended treatment cases are in the minority. The presence of contributing factors such as the nutritional status of the patient, individual tolerance and psychogenic factors affect the treatment time. In a few cases, the slightest change in the occlusion will retrigger the TMJ syndrome after the complete equilibration has been accomplished. In these cases it is necessary to do additional equilibration which is usually done very quickly.

It should be remembered that the dental occlusion changes throughout life as teeth wear or change position slightly.

## *CONCLUSION*

The TMJ syndrome is a highly complex neurophysiological phenomenon. Idiopathic facial and head pain is a common diagnostic finding in medicine and dentistry. The dental occlusion is a frequent contributing factor in such cases.

The muscular mechanisms involved are so delicate that pressures of a fraction of a millimeter can stimulate muscular contractions resulting in extreme pain.

If the TMJ syndrome is suspect, the patient should be referred to the practitioner experienced in handling such problems.

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# ALZHEIMER'S DISEASE: A REVIEW OF RECENT STUDIES

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SENIOR MEDICAL STUDENT
WILLIAM C. MILLER, M.D.*
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"Alzheimer's disease is a degenerative disorder of the cerebral cortex that produces a dementia in middle to late life."[1] Since its specific defining properties are in neuropathology, it is a pathological entity. It presents as a psychiatric disorder in most cases, and thus it is classified as an organic psychosis. Although much has been written about the etiology, pathology and clinical manifestations of the disease, there still remains a great deal of research needed to answer basic questions regarding its existence.

Because comprehensive statistics are not available, the incidence of the disease has not been clearly established. Nevertheless, it does appear to be the most common of all primary types of presenile dementia. In the United States, the incidence varies from 1.5 percent to 4 percent of all necropsies performed in psychiatric institutions.[2] The incidence among females is somewhat higher than in males in the proportion of 3:2.

First described by Alzheimer in 1907 in a terse report on "A Peculiar Disease of the Cerebral Cortex," the disease is a primary degenerative polioencephalopathy of unknown etiology and pathogenesis. Pathologically, the cortex atrophies, the gyri diminish in size, and the ventricles dilate. Not only do the changes occur in the cortices of the frontal, temporal and occipital lobes, but also in the gray matter and occasionally in the brain stem as well. The weight of the brain is markedly reduced when its size is compared to that of the brain of the geriatric patient with functional and cerebrovascular disorders. In a study by Sjogren in 1965, 400 cases are reviewed and brain weights are determined.[3] The results demonstrate a marked difference in brain atrophy with the greatest reduction in size found in the frontal, temporal, and limbic structures of those patients with Alzheimer's disease. Some brain weights as low as 1000 grams are recorded.

On a microscopic level, neurofibrils present in the neurons form meshworks of neurofibrillary tangles. These tangles consist of masses of similar appearing abnormal twisted microtubules which fill a large part of the cell or affected neuron. Also present extracellularly are condensations of aging cerebral substance which are termed senile plaques. These microscopic accumulations of granular argyrophilic particles tend to form a halo around an uncertain core of sudanophilic fat or amyloid-like material. Recent ultrastructural studies of cortical biopsies show that senile plaques consist of small groups of degenerative terminal dendrites which also contain close packed bundles of abnormal microtubules. Extracellular amyloid fibrils are found in all but the very smallest plaques and the various types of "primitive" and "mature" plaques seem to represent the light microscope equivalents of evolving lesions, which contain larger centers of amyloid and progressively fewer neutrites as the latter degenerate and disappear.[4]

The enzymatic study of senile plaques is of great interest at the present time. Friede

*Medical University of South Carolina, Charleston, South Carolina

demonstrated the following:

> "In the early stage of development, the plaque is characterized by increased activity of the enzyme diphosphopyridine nucleotide diaphorase and succinic, lactic, malate, and glutamate dehydrogenases. In a second phase, there are hypertrophic astrocytes with increased oxidative enzymes found. The late stage is characterized by a decrease of oxidative activity, deposition of polysaccharides, and proliferation of microglial cells with strong acid phosphatase activity. Similar acid phosphatase activity is found in the neurofibrillary tangles but is of greater magnitude. The significance of these histochemical studies is uncertain, but they may represent an abnormal accumulation of a normal structure, the activity of which may well be related to energy production for axonal flow or impulse transmission."[5]

Since the diagnosis of Alzheimer's disease is usually made on clinical grounds without pathological support, a true knowledge about the existence of the disease is not certain. The differential diagnosis based on clinical grounds includes Pick's disease, Jacob-Creutzfeld disease, low pressure hydrocephalus, early cases of Huntington's chorea, atherosclerosis of the carotid arteries, and subacute spongiform encephalopathy. Rosenstock in his review of Alzheimer's disease, however, states that it constitutes a rather consistent syndrome with characteristic early and late features: early electroencephalogram findings demonstrate diffuse slowing with loss of the dominant alpha rhythm especially over the fronto-parietal areas, the parenchyma reveals cortical atrophy and ventricular dilation by pneumoencephalogram; the skull roentgenograms and cerebrospinal fluid are usually normal.[6] It must be stressed that those entities — low pressure hydrocephalus and carotid artery atherosclerosis — which may improve with surgical intervention must be distinguished in the evaluation of dementia.

On a clinical level, Alzheimer's disease presents with psychiatric changes almost entirely. It usually begins at an early stage in life, usually in the 40's and 50's. The disease progresses rapidly with severe brain damage and mental deterioration during the early stages of the illness. Frequently the patient develops aphasia and dysarthric speech in which the articulation of words becomes severely impaired and the words may be slurred, confused, and indistinct. Sim has conveniently divided the symptomatology present into three stages.[7] In the early stages, patients show early retrograde amnesia, though a few present with depression and distress over the disability provoked by the amnesia. This stage is marked by defective perception and comprehension, gradual loss of remote memory, impaired reasoning, difficulties in concentration, and decreased efficiency, extending to mistakes in activities of daily living. Often the patient projects the blame for his increasing incapacity on others and develops transient unsystematized delusions of reference and persecution. He develops defenses to correct the defect — a tendency to tidiness, maintenance of superficial relationships with funds, and a frivolous attitude when the defect is revealed. In the second stage, intellectual impairment is evident in all areas. Recent memory is particularly impaired and confabulations present themselves. The patient's mood is depressed, apprehensive, and irritable. Compulsive laughing and crying occurs and there is an accompanying hyperactivity with general restlessness, aimless wandering, and repetition of purposeless movements. Dysphasia and dysarthria also continue. During the late stages of the disease, the patient becomes disoriented to time, place, and person, and is unable to recognize familiar objects and the closest of relatives. One of the common findings is the loss of spatial perception. Neurological signs are more evident and consist of deterioration along parkinsonian lines; pyramidal signs; urinary incontinence; and in some, epileptic attacks. Eventually the patient becomes bed-ridden and reduced to a vegetative existence. Psychotic symptoms of a

delusional and persecutory nature do occur in the early stages, however, they are more prominent in the late stages, from five to eight years after its onset. The early occurence of confabulation found in neurologic deficits and the appearance of incontinence and convulsions are more clearly associated with other disease processes, however, than with Alzheimer's. Finally, most patients with the disease live from five to nine years following its onset and usually die from intercurrent infections.

As far as familial occurence and genetic variables present in Alzheimer's disease are concerned, little is known. Most workers reporting family studies concur that the disease is probably inherited as an autosomal dominant. Since often less than 50 percent of siblings are affected, penetrance may be incomplete.[8] A contrary view has been suggested by Sjogren.[9] He concedes that a multifactorial inheritance is possible, with several genes having a cumulative effect until a threshold is reached and the disease becomes manifest. Sjogren also demonstrated that the reason for a greater proportion of females to males may lie in an inhibitory or modifying gene which is sex-linked with manifestations being inhibited more in the male than in the female. Most researchers, however, agree that recessive inhibition seems unlikely because of cases present in successive generations and the low incidence of first cousin marriages.

Other studies propose that prolonged use and abuse of analgesics, particularly those containing phenacetin, may be related to the appearance of histological signs of Alzheimer's disease.[10] In a recent study, nine brains of patients with analgesic nephropathy were examined for neuropathology. Senile plaques were found in all and were present in the frontal, temporal, and occipital regions, but were most obvious in the hippocampal gyrus. Here there was also premature deposition of lipofuchsin in the neurons. The reason for its deposition is most probably related to the fact that phenacetin is a powerful oxidizing agent, which when it acts on unsaturated fats and fatty acids found in the neuron, causes the formation of lipofuchsin. Although some researchers feel that lipofuchsin is a harmless by-product of neuronal metabolism, others feel that its accumulation adversely affects neurons by producing adhesions of the neurofibrils resulting in neurofibrillary tangles.[11]

One would like to conclude with a definitive treatment plan for patients with this disease; however, this just does not exist at the present time. Recent studies have cited the use of ventriculoatrial shunts for supportive treatment.[12] These studies demonstrate only minimal improvement in those patients with presenile dementia as opposed to those patients with occult hydrocephalus. One is therefore left with only supportive measures such as the use of antidepressants to combat distress and dejection over the disease and the use of tranquilizers to reduce hostility, delusional symptoms, etc.

In conclusion, Alzheimer's disease continues to remain a medical and psychiatric enigma despite extensive studies in relation to all ramifications of the disease process. The clinician is left then with an incomplete understanding of the cause and treatment for the condition. It can only be hoped that future research will reveal important information to aid the physician in dealing with this interesting but mysterious disease.

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*Controlled Trial of Two Regimens of Subcutaneous Heparin in Prevention of Postoperative Deep-Vein Thrombosis*

I. C. GORDON-SMITH et al (L. P. Le QUESNE, Middlesex Hosp, London) *Lancet* 1:1133-1135 (May 27) 1972

A total of 150 patients undergoing major operations were divided into three groups: (1) controls, (2) those receiving three 12-hourly doses of 5,000 IU heparin and (3) those receiving 5,000 IU heparin every 12-hours for five days. The incidence of deep-vein thrombosis was 42% in the controls, 13.5% in group 2, and 8.3% in group 3.

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*Atherosclerosis as Pediatric Problem*

W. B. KANNEL and T. R. DAWBER (123 Lincoln St, Framingham, Mass 01701) *J Pediatr* 80:544-554 (April) 1972

Atherosclerosis has its origins in infancy and childhood. Genetically determined lipid abnormalities account for a distinct but small segment of highly susceptible persons. Early detection of such individuals and an early treatment of these "defects" are urged.

*Acute Pancreatitis as Complication of Imuran Therapy in Regional Enteritis*

J. R. NOGUEIRA and M. A. FREEDMAN (General Rose Memorial Hosp, Denver 80220) *Gastroenterology* 62:1040-1046 (May) 1972

A 57-year-old woman with regional enteritis developed acute pancreatitis after three weeks of azathioprine (Imuran) treatment. Pancreatitis recurred when he drug was given again. Pancreatitis has not previously been related to azathioprine therapy except in transplantation.

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Rubella Vaccine Myeloradiculoneuritis— R. C. GILMARTIN, Jr., et al (Children's Medical Center, Tulsa 74105) *J Pediatr* 80:406-412 (Mrach) 1972.

Thirty-six children with myeloradiculoneuritic syndrome were studied following a mass rubella vaccine program. The highest incidence of reaction was seen in preschool children and occurred on an average of six weeks following vaccination. This transient disorder differed from the arthritis of rubella. The only consistent laboratory abnormality was an abnormal nerve conduction velocity.

# X-RAY FILMS OF THE MONTH



G. E. RICHMOND, M.D.
Department of Radiology, Richland Memorial Hospital, Columbia, S. C.

This a a 53 year old colored female with a vague several year history of headaches and no neurological deficit. There was no other bony involvement by x-ray. What is your x-ray diagnosis?

1. Normal skull
2. Convexity meningioma
3. Sickle cell disease
4. Paget's disease
5. Fibrous dysplasia

*Answer:* Convexity meningioma. These are typically slow growing and 75% can be diagnosed by plain films, 33% show sclerotic changes and 10% contain calcification. Other changes are osteolytic and related to localized hypervascularity in 25%, atrophy of the sella in 50% and pineal shift in 60%.

The above case is an extreme example showing primarily the sclerotic manifestations.



# President's Page



It is the opinion of many today that the Federal Government should administer and finance radical changes in the practice of medicine, in order to try to improve the methods of rendition of medical care and to make it equally available to all citizens of the United States, regardless of their economic status or geographic location in relation to their proximity to or remoteness from a so-called medical center. Such an opinion is usually part of a philosophy which embraces four assumptions. First, there is the tendency or disposition to characterize the problem or alleged problem as being a crisis. In our country at present, certainly more citizens are receiving more and better medical care than ever before, witness the advances in medical practice in the last 50 years, and there is no sound basis for claiming that there is any "health care crisis" in this country at this time. Secondly, there is the idea that government, this means the National Government, has the answers to any new problem that does arise. The postal service and the public school systems are but two examples which refute this. Thirdly, there is the idea that the allocation and spending of money will solve the problem. Even a superficial study of the O.E.O. programs should dispel such an idea. Fourthly, there is the assumption that basic economic laws are no longer applicable and therefore can be ignored. One of these is the law of supply and demand. To date, it would appear that humans have been successful in some instances in controlling supply, such as money for mortgage purposes, but no one yet has really devised the method to control demand, witness the increasing use of hospital facilities and increasingly complex and expensive technical equipment necessary in the study, diagnosis and treatment of disease today.

Whereas it is believed that we will all recognize that there is need for improving the availability of medical care to the poor, there is little reason to believe that it could be better administered or financed on the federal level than it could on the state or preferably the county or municipal level, such as has been practiced throughout the country for years, except for the military and the veteran population and until the advent of the Medicare and Medicaid programs. With each change from private to municipal to county to state to federal levels, the cost of the collection and disbursing of monies increases geometrically. We should be mindful that monies that should be expended for the care of the sick, and for the prevention of sickness can be wasted in administrative cost, and not serve best the purposes for which they were appropriated. It is exceedingly important that all physicians inform their representatives at all levels of government, especially at the federal level, that careful study and extreme caution should be used before any legislation is passed which would alter materially the methods of medical practice as we know them today. Our energies could be far better spent by devising ways to educate the poor regarding the availability of medical care, and in providing transportation for those who are truly deserving of public support.

Edward F. Parker, M.D.

# Editorials

### The Shape of Things to Come (Depends on YOU)

Just think, as you read this, before you receive another issue of *The Journal*, the presidential elections will be over and the direction of our nation for the next four years will be determined.

In his call for a new editor of this journal, Dr. Joe Waring suggested a "non political" person. We will endeavor to be non political, certainly non partisan, in our statements in editorials. However, the situation confronting us on Election Day, November 7, 1972, demands comment! Never in my knowledge has such a clear choice between disaster and hope been available to us. George McGovern's actions and statements up to this time (early September) seem to be socialistic in philosophy, wavering in character, superficial in knowledge, exploitative in context, and calamitous in total. If you agree, you have less than a month to do something to save our country. If you take the contrary view and believe that McGovern can help our country, you have just under a month to do something about it. Whatever your views, your time to affect the shape of things to come is growing short. Get to work!!!

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### The TMJ

During my orthopedic residency years, an hour lecture by an eminent oral surgeon on the hospital staff ended with the frequent closing statement, "I have a few more minutes for any questions." I raised my hand and naively asked. "Could you please give us a brief description of the temporomandibular joint?" The expert pondered this question briefly, then replied, "I have just had published an eighty page monograph on that subject and I am still not sure I understand it — certainly not well enough to describe it in just a few minutes!"

The TMJ is a complicated synovial joint with many clinical implications. It is often involved and sometimes the monitory joint in rheumatoid arthritis. Acute trauma or repeated microtraumata can cause internal derangement of the TMJ. Tension states can cause tooth grinding and TMJ pain. Occlusive defects, as described in Dr. Alpert's article in this issue, are frequently — probably the most frequent cause — related to TMJ pain. Yet this little, but complex joint, lies almost in the DMZ — on the fringe areas of orthopedics, oral surgery, otolaryngology, and maxillo-facial surgery, but all too frequently not being sufficiently interesting to any of these specialties to get the attention it deserves.

We thank Dr. Alpert for crossing over from the dental world to make us cognizant of the TMJ and its wide clinical implications. His approach should frequently prove successful. Perhaps, too, it will stimulate more thought and discussion on the TMJ — an underrated cause of suffering.

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### Self Evaluation

At the University Hospital in Charleston I submitted to a self evaluation examination which had been widely publicized and could have been participated in by all who are sufficiently concerned. This test was held on the same day and hour in various medical educational centers over the United States. I was surprised to find that I was the only practicing physician present. I was more surprised later to learn that, although I felt I had done very well, my percentile was in a range far from flattering. This led me to give some thought to the matter of evaluation tests in general. I have some doubts as to their all-embracing propriety.

To begin with there is no way, absolutely no way, aside from prolonged and careful examination plus extensive actual observation

of a man in practice to determine his qualifications in any given area. This is the position held by some otherwise qualified men who have not troubled themselves to endure "board examinations." I respect their opinion and, although I am happy to have had my own board certificate for more than forty years, I do not consider that this entitles me to continue to practice my specialty as I choose. What does entitle me so to do is the vigilant attention which has been paid through the years to patients and, through meetings and reading, to the rapid developments in methods of diagnosis and treatment now far in advance of those used when I began to practice. This care is rendered by all honorable physicians, and, while there has been an occasional "rotten apple in the barrel", the number is insufficient to warrant the unfavorable light in which medicine stands in the eyes of the public whose views have been unjustifiably distorted by unscrupulous reporters and politicians. Yet, thank God, we do have friends.

It is abundantly clear that the facets of medical interests have become so numerous that it is impossible for any man to know all that he should know even in a small subdivision of his own specialty. It is, therefore, not likely that someone in an ivory tower is going to be able to devise realistic questions which will enable a board of examiners or the examinee himself to determine a practitioner's ability in his limited field. Too many factors in successful clinical work have to do with immeasurable assets such as patience, personality, conscientiousness, and above all love and faith on the part of the physician and that of the patient in whom they are engendered.

As one grows old in practice, his interests become narrowed as a matter of course and of necessity. It is not reasonable to require that he should be academically informed except where such knowledge is imperative to the actual work in which he is engaged. It is, of course, essential that he "knows what he does not know." If he acts upon this, he is qualified; but you cannot find this out by any practical method of examination.

J. W. Jervey, M.D.
Greenville, S. C.

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The Journal of the South Carolina Medical Association

## 50 YEARS AGO

**October, 1922**

Dr. R. M. Pollitzer of Charleston reported that there were 176 deaths from malaria in the year preceding. Dr. A. J. Buist of Charleston wrote on gall bladder disease.

# DYAZIDE®

Trademark

Each capsule contains 50 mg. of Dyrenium®
(brand of triamterene) and 25 mg. of hydrochlorothiazide.

# CAN STOP POTASSIUM DEPLETION BEFORE IT STARTS

# WITH NO SACRIFICE OF THIAZIDE EFFECTIVENESS

Before prescribing, see complete prescribing information in SK&F literature or *PDR*.

***Indications:** Edema associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. Also, mild to moderate hypertension.

**Contraindications:** Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

**Warnings:** Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired. Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

**Precautions:** Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect.

**Adverse Reactions:** Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Rarely, necrotizing vasculitis, paresthesias, icterus, pancreatitis, and xanthopsia have occurred with thiazides alone.

**Supplied:** Bottles of 100 capsules.

SK&F CO.
Carolina, P.R. 00630
*a subsidiary of Smith Kline & French Laboratories*

# IN EDEMA*—IN HYPERTENSION*

# If you've seen one, have you really seen them all?

The following patient profiles represent typical clinical situations, but do not necessarily represent actual cases.

Age 22, previously normal menses with occasional menorrhagia. Now on a sequential O.C. for four months. Complains of heavy flow, occasional intracyclic bleeding, edema, tender swollen breasts.

Indicates estrogen excess.

1st choice: Switch to a combination 50-mcg.-estrogen O.C. (such as **Demulen**®).

Age 19, small breasts, minor hirsutism, oily hair and skin. History of metrorrhagia, skipped or scanty menses. New user.

Indicates androgenic excess or estrogen deficiency (fertility is suspect).

1st choice: An estrogen-dominant O.C. (such as **Enovid-E**®).

Age 25, average frame, poor complexion. No problem with menses, normal para 1. On a low-estrogen/high-progestogen O.C. for two years. Now complains of scanty flow, decreased libido, depression.

Indicates probable buildup of progestogen-related side effects.

1st choice: Switch to a center-spectrum O.C. with more estrogen, less progestational activity (such as **Ovulen**®).

Age 21, short, mammose, with normal menses, some acne. Was put on prenuptial regimen of 50-mcg.-estrogen/moderate-progestogen O.C. for two months. Now has increased acne.

Indicates metabolic production of androgen or relative estrogen deficiency.

1st choice: Switch to a 100-mcg.-estrogen combination (such as **Enovid-E**® or a sequential).



same. A basic difference lies in their hormone profiles. One may secrete too much estrogen, another not enough...or perhaps too much androgen; the vast majority would fit somewhere into the broad center spectrum.

Although the profiles described below may not be completely predictive, in optimal O.C. selection, the estrogen-progestogen activity ratio should be carefully matched to the patient profile. Searle offers you O.C.s in a range not only suitable for your patients in the balanced center spectrum, but also adaptable to the patient with another type of hormone profile.

Oral contraceptives are complex medications. Among the commonly reported adverse reactions are: intracycle bleeding, fluid retention, tender or swollen breasts, exacerbation of acne condition, changes in libido, amenorrhea while on medication and upon discontinuance, nausea, leg cramps, headaches, weight gain. Therefore, after reference to the prescribing information, oral contraceptives should be prescribed with care.

*Note: In some patients any level of exogenous estrogen or progestogen may produce symptoms of excess hormone activity.

, tall, slender, athletic,
at chest. On a progestogen-
ant 50-mcg.-estrogen O.C.
current trichomoniasis
onilia.
cates estrogen deficiency and
of progestogen in current O.C.
choice: Switch to a com-
n pill with 100 mcg.
en and less progestational
(such as **Enovid-E**** or
* or a sequential).

Age 23, "Miss America" figure, previously normal menses, healthy skin and hair. On a 50-mcg.-estrogen pill for four months. Complains of intracyclic bleeding.
Indicates probable need for more estrogen.
1st choice: Switch to a center-spectrum O.C. with more estrogen and moderate progestogen dominance (such as **Ovulen**®).

Age 21, college senior, average build. On highly progestogen-dominant/low-dose-estrogen O.C. for six months. Now complains of amenorrhea, between-cycle headaches, weight gain.
Indicates probable progestogen excess.
1st choice: Switch to a center-spectrum pill (such as **Ovulen**®).

Age 27, slightly overweight, multiparous. Nausea with all three pregnancies and with a sequential O.C. three years ago. Has pre-menstrual fluid retention and leg cramps.
Indicates probable excess of estrogen.
1st choice: A 50-mcg.-estrogen/progestogen-dominant pill (such as **Demulen**®).



**Ovulen**® a balanced center-spectrum O.C. for most

Each white tablet contains ethynodiol diacetate 1 mg./mestranol 0.1 mg.

**Demulen**® a moderately progestogen-dominant O.C. for many

Each white tablet contains ethynodiol diacetate 1 mg./ethinyl estradiol 50 mcg.
Each pink tablet in Ovulen-28® and Demulen®-28 is a placebo, containing no active ingredients.
Both Ovulen and Demulen are available in 21- and 28-pill schedules.

SEARLE Products of SEARLE & CO.
San Juan, Puerto Rico 00936

**Enovid-E**® a moderately estrogen-dominant O.C. for some

Each tablet contains norethynodrel 2.5 mg./mestranol 0.1 mg.

SEARLE Product of Searle Laboratories Division
G.D. SEARLE & CO.
P.O. Box 5110, Chicago, Illinois 60680
***Where "The Pill" Began***

rief summary
scribing information,
e see next page.

# a family of O.C. products to help you match the right pill to the right patient

## Ovulen®

Each white tablet contains
ethynodiol diacetate 1 mg./mestranol 0.1 mg.

## Demulen®

Each white tablet contains.
ethynodiol diacetate 1 mg./ethinyl estradiol 50 mcg.

Each pink tablet in Ovulen-28® and Demulen®-28 is a placebo, containing no active ingredients.

**Actions**—Ovulen and Demulen act to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Ovulen and Demulen depress the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

**Special note**—Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

**Indication**—Ovulen and Demulen are indicated for oral contraception.

**Contraindications**—Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

**Warnings**—The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality conducted in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis, pulmonary embolism, and cerebral thrombosis and embolism and the use of oral contraceptives. There have been three principal studies in Britain[1-3] leading to this conclusion, and one[4] in this country. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll[3] was about sevenfold, while Sartwell and associates[4] in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as nonusers. The American study also indicated that the risk did not persist after discontinuation of administration and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Ovulen and Demulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

**Precautions**—The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen or Demulen. Therefore, if such tests are abnormal in a patient taking Ovulen or Demulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations preexisting uterine fibromyomas may increase in size. Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Ovulen or Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen or Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen or Demulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen or Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

**Adverse reactions observed in patients receiving oral contraceptives**—A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in $T^3$ uptake values; metyrapone test and pregnanediol determination.

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## Enovid-E®

norethynodrel 2.5 mg./mestranol 0.1 mg.

**Actions**—Enovid-E acts to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Enovid-E depresses the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

**Indication**—Enovid-E is indicated for oral contraception.

The *Special Note, Contraindications, Warnings, Precautions* and *Adverse Reactions* listed above for Ovulen and Demulen are applicable to Enovid-E and should be observed when prescribing Enovid-E.

## Enovid-E®

brand of norethynodrel with mestranol

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***Where "The Pill" Began***

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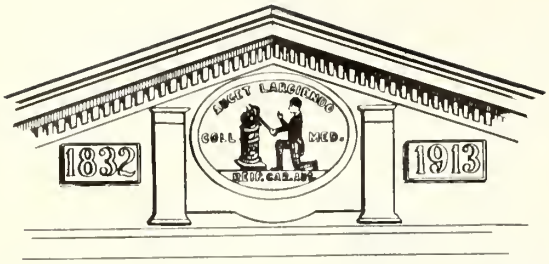



**Dr. Lucius C. Pressley** has been named associate director for clinical services at the William S. Hall Psychiatric Institute, the research, teaching and training facility for the State Department of Mental Health. Dr. Pressley joined the staff of the institute in June, 1966, and was chief of the psychiatric outpatient section. **Dr. Felix A. Costa,** a child fellow graduate, is now serving as a consultant in child psychiatry to four of the division's 14 community mental health centers and clinics. **Dr. John M. Foxworth** has completed his psychiatric residency and, after serving his military commitment will work in general psychiatry at the Spartanburg Area Mental Health Center. **Drs. Daniel Vallini, Bruce R. Holzman and S. Robert Young** have joined the professional staff of Hall Institute. First-year residents at the Institute are **Drs. Charles B. Baber, Fletcher K. Baker, Fionan M. O'Griofa** and **Ivan Aralica.**

**Dr. J. C. Harris** was honored by his colleagues after practicing medicine in Lancaster since 1927. **Dr. William R. Wallace,** Chester physician for the past 63 years, was named President Emeritus by the Old Catholic Presbyterian Church Memorial Association. **Dr. Sam G. Lowe,** Rock Hill pediatrician, has been named director of Medical Screening Services for Carolina Community Actions, Inc. This is a new project funded for a 12-month period with funds from the Office of Economic Opportunity and local sources.

**Dr. R. F. Bozeman, Jr.** announced the association of **Dr. Salvatore A. Rini** for the practice of Obstetrics and Gynecology at his offices in Myrtle Beach. Dr. Rini studied at the New York Medical College and the New Rochelle Hospital in New Rochelle. **Dr. H. Cooper Black, Jr.** has announced the opening of an office for the practice of general and vascular surgery in West Columbia. He is associated with **Dr. Fred W. Clemenz.** Dr. Black is a graduate of the Medical University of South Carolina. **Dr. Peter M. Williams,** a native of Mullins, has opened offices for the practice of medicine in Florence. His specialty is in the field of allergy and immunology. Dr. Williams studied at the Medical University of South Carolina, Cincinnati General Hospital and the University of Virginia Hospital.

**Dr. Henley H. Hurt** will practice internal medicine in Columbia after serving for the past two years as Chief of the Department of Medicine at Fort Jackson Army Hospital. Dr. Hurt graduated from the Medical University of South Carolina and also spent some time in training at Fitzsimons General Hospital in Denver, Colorado. **Dr. Rudy Celis** has moved to Anderson from Washington, D. C. to be associated with Anderson Memorial Hospital in the radiology department. He received his medical degree at Georgetown University Medical School and did his internship at Charity Hospital in New Orleans. Prior to moving to Anderson, Dr. Celis served his residency in radiology at Georgetown University Hospital.




## Medical University of South Carolina

Richard A. Borden has been appointed associate professor and director of the new Physical Therapy Program in the College of Allied Health Sciences, Medical University of South Carolina.

The recent addition of Physical Therapy as a program in the College of Allied Health Sciences brings the total number of programs leading to a Bachelor of Science Degree to four. The program will be based upon the two plus two concept. The first two years of prerequisites and general education requirements must be acquired at an accredited institution of higher learning, with the final two years being completed at the Medical University.

The Fall of 1973 is the target date for acceptance of students to the program.

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A Charleston physician, Dr. Charles H. Banov, has been appointed allergy consultant for the Southeastern states under a new "dial a diagnosis" service for doctors. He is assistant clinical professor of medicine at the Medical University of South Carolina.

The non-profit service, known as Medicall, is operated out of Chicago by the 3,000- member American Society of Contemporary Medicine and Surgery, headed by the noted heart surgeon Dr. Michael DeBakey. Medicall has about 200 physicians throughout the nation available on a 24-hour basis to answer medical queries from fellow physicians. The inquiring doctor is connected with a specialist, via a telephone arrangement in Chicago, in slightly over a minute. The service is expected to be especially useful to physicians practicing in remote or sparsely settled areas.

Dr. Banov is a fellow of the American Col-



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**Precautions:** Use cautiously in patients with impaire renal or hepatic function, severe allergy or bronchia asthma. Hemolysis, frequently dose related, may oc cur in glucose-6-phosphate dehydrogenase-deficien patients. Maintain adequate fluid intake to preven crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias:* Agranulocy tosis, aplastic anemia, thrombocytopenia, leukopenia hemolytic anemia, purpura, hypoprothrombinemia an methemoglobinemia; *Allergic reactions:* Erythem multiforme (Stevens-Johnson syndrome), generalize skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylac toid reactions, periorbital edema, conjunctival an scleral injection, photosensitization, arthralgia and a lergic myocarditis; *Gastrointestinal reactions:* Nausea emesis, abdominal pains, hepatitis, diarrhea, anor rexia, pancreatitis and stomatitis; *C.N.S. reactions* Headache, peripheral neuritis, mental depression convulsions, ataxia, hallucinations, tinnitus, vertig and insomnia; *Miscellaneous reactions:* Drug fever chills and toxic nephrosis with oliguria and anuri Periarteritis nodosa and L.E. phenomenon have oc curred. Due to certain chemical similarities with som goitrogens, diuretics (acetazolamide, thiazides) an oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hyp glycemia as well as thyroid malignancies in rats fo lowing long-term administration. Cross-sensitivi with these agents may exist.

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*Koch-Weser, J., *et al.*: *Arch. Intern. Med.*, *128*:399, 1971.

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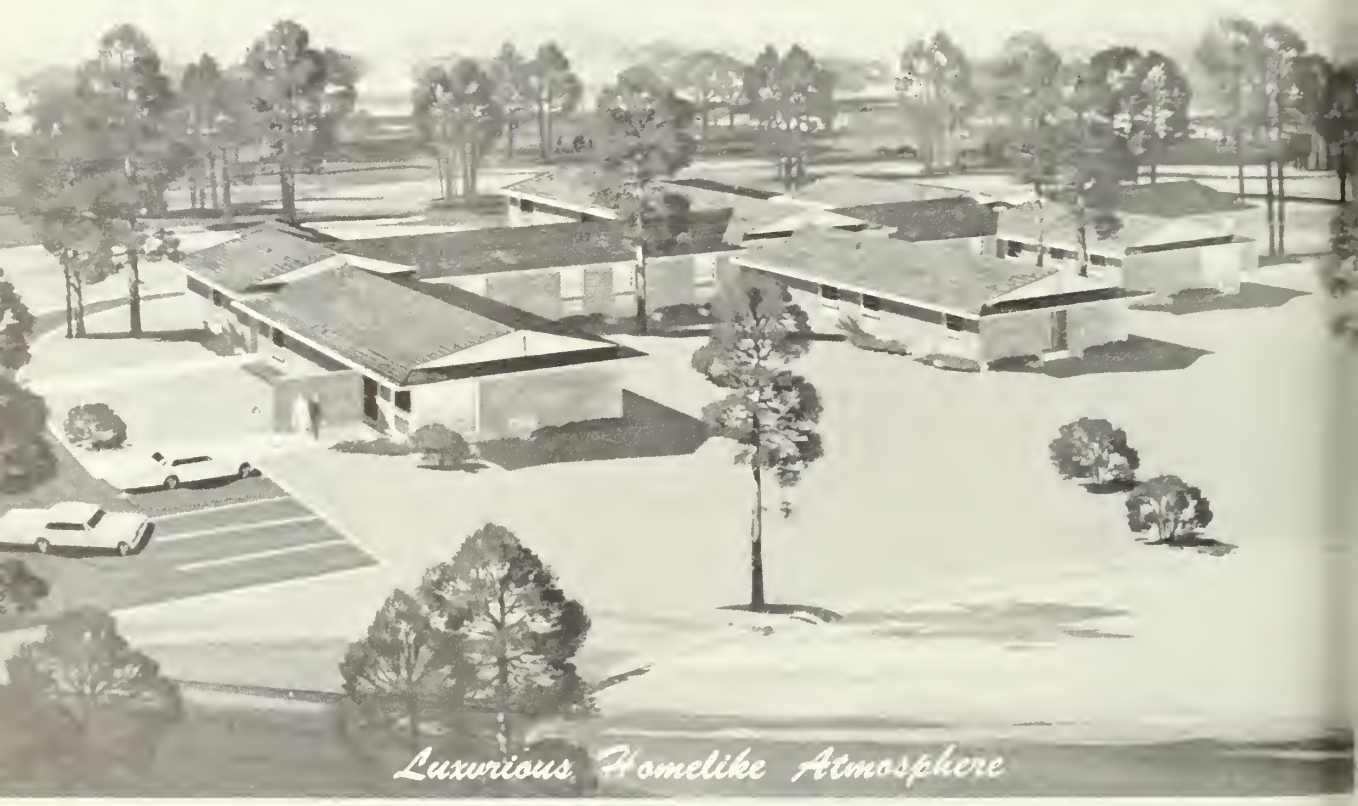
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lege of Physicians and was the first South Carolinian to be certified by the sub-specialty Board of Allergy and Immunology of the American Board of Internal Medicine.

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Three faculty appointments have been announced for the Department of Pathology at the Medical University of South Carolina. They are Dr. Roderick L. Guerry and Dr. Albert Kreutner, Jr., who have a special research interest in surgical pathology and cytology, and Dr. Sterling K. Ainsworth, whose research interest is in the field of the kidney and immunology.

Dr. Guerry, a native of Jacksonville, Fla., comes to the Medical University after duty at the U. S. Army Hospital in Wurzburg, Germany. He is a 1960 graduate of the University of Georgia and received his M.D. degree from the Medical College of Georgia in 1964. He did his internship and residency at Duke University where he was a fellow in neuropathology.

Dr. Kreutner, of Richmnod Hill, New York, is a graduate of Colgate University and received his M.D. degree in 1964 from the University of Rochester. He did his internship and residency at the University of Rochester-Strong Memorial Hospital. He was chief resident in pathology in 1968 at the University of Pittsburgh-Presbyterian University Hospital.

Dr. Ainsworth, a native of Meridian, Mississippi, comes to the Medical University after two years as a research fellow in pathology at Harvard Medical School. He is a graduate of the University of Mississippi where he received his B.A., M.S. and Ph.D. degrees. His doctorate major was in microbiology. Dr. Ainsworth has done research at the University of Mississippi Medical Center and was a postdoctoral fellow at the University of Alberta, Edmonton, Alberta, Canada.





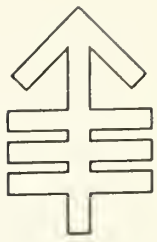
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# CANCER TOPICS



## THE COLOSTOMY REHABILITATION PROGRAM

PAUL H. O'BRIEN, M.D., FACS*

Rehabilitation is the science and skill of returning the patient as rapidly and completely as possible to his rightful role with his family and society. Proper attention and proper personnel have only recently become available for the maximal rehabilitation of the cancer patient. For the patient who has undergone massive head and neck surgery, we have the skills of plastic surgery and/or the prosthodontist. The patient who has undergone breast surgery now has in South Carolina the "Reach to Recovery" program. Patients who require amputation of an extremity are now given an immediate fitting for a prosthetic device. Today we are talking of the Colostomy Rehabilitation Program in South Carolina under the direction of D. C. Hull, M.D., State Coordinator.

During the academic year 1972-1973, it is estimated there will be 500 new cases of cancer of the colon and rectum diagnosed in South Carolina. Approximately one half of these will require an abdominal perineal resection and the patient will have to master the management of a permanent end sigmoid colostomy. In most surgical texts, the problems of the patient are grossly underestimated. The patient is told that he should maintain a low residue diet; regular social habits; and learn to irrigate.

Irrigation is almost uniformly encouraged in colostomy patients in the United States, despite proper information as to the adequacy of available toilet facilities. If the patient has inadequate toilet facilities, the nonirrigation technique should be explained to the patient. The patient may be reassured that in England the great majority of colostomy patients do not irrigate. Further advantages of the non irrigation technique are the absence of colonic perforations from the irrigating tube, which are a very real source of morbidity and mortality in the colostomy patient.

Upon discharge, the patient is often instructed to have a daily enema. With personal regulation of the daily enema, the patient is frequently assured that all he will require to cover his colostomy is a small gauze pad. Such a regimen is rarely obtained. While the gauze pad is ideal, the occasional "accident" and gross embarrassment make most colostomy patients prefer the security of the readily available, cheap, disposable plastic bags. The enema routine requires considerable experimentation, with some patients preferring to irrigate every other day and some every third day.

The rate of flow of the fecal mass through the right colon and the ability of the bowel to absorb water will determine what is to be discharged through the stomal opening in the sigmoid colon. There is no sphincter on an end colostomy nor indeed any proximal rectal valves or distensible rectum. To expect some type of regular involuntary bowel movement from a sigmoid colostomy is unrealistic.

The true experts on colostomy care are

*Director of the Cancer Clinic, Medical University of South Carolina, Charleston, South Carolina. Professor, Department of Surgery, Medical University of South Carolina, Charleston, South Carolina.

those patients who have successfully mastered their own colostomy. Such volunteers can provide the patient physical proof that a very full and rich life can be accomplished with a colostomy. There are now male and female volunteers available for helping the colostomy patient adjust to his handicap in Richland County, Florence, Spartanburg, Greenville, and Charleston. The volunteers are all very well adjusted emotionally, mature individuals who have for the patient assurance and practical aids for controlling the colostomy. Patients who have had the advantage of being visited by these volunteers consider the volunteers to have very successfully reduced anxiety, embarrassment, and enhanced the patient's adjustment to his colostomy.

For the long time help of the patient with a colostomy in South Carolina, the American Cancer Society is now recommending the acquisition of an enterostomal therapist. The South Carolina Division has established a fund of $1,000 to finance the training of such an enterostomal therapist in a six week course which is currently offered in only three institutions in the United States. The then qualified therapist would be available to the South Carolina Division on a volunteer basis to assist in the education of both physicians, technicians, and patients in the problems of various types of ostomies. This would seem to be a very desirable goal. A trained enterostomal therapist could then provide regular help and management for patients with diverse types of ostomies.

Total care of the cancer patient in 1972 requires much more than a competent wide field resection of the afflicted organ. Rehabilitation is an integral part of therapy. These rehabilative programs are available in the State of South Carolina, many through the auspices of the South Carolina Division of the American Cancer Society. Support for the South Carolina Division of the American Cancer Society and its rehabilitation programs is the responsibility of all physicians treating the cancer patient in South Carolina.





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**E. Kenneth Aycock, M.D., M.P.H.**
**Secretary and State Health Officer**

## STATE BOARD OF HEALTH NEWS

The Bureau of Laboratories of the South Carolina State Board of Health will present a course on the Qualitation and Quantitation of Immunoglobulins on November 8-10, 1972. This seminar will provide participants in the course with theoretical knowledge and technical skills necessary for quantitatively assaying serum immunoglobulins.

The course will be conducted at the Bureau of Laboratories, South Carolina State Board of Health, 2600 Bull Street, Columbia, South Carolina by Dr. Dan Palmer, Chief, Serology Training Unit, Center for Disease Control, Atlanta, Georgia. For more information, contact Mrs. Susan Cheatham, Laboratory Improvement Section, South Carolina State Board of Health, 2600 Bull Street, Columbia, South Carolina 29201.

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*Sure Cure—Almost*
Attributed to Galen, who may have had tongue in cheek: "All who drink of this remedy recover in a short time, except those whom it does not help, who all die. It is therefore obvious that it fails only in incurable cases."

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# SOUTH CAROLINA REGIONAL MEDICAL PROGRAM

**VINCE MOSELEY, M.D.**
**Coordinator, South Carolina**

## $1,700,368 AWARDED TO S. C. REGIONAL MEDICAL PROGRAM

Meeting in Columbia Aug. 22, the Regional Advisory Group of the South Carolina Regional Medical Program awarded $1,700,368 in funds involving 30 health care projects across the State.

The Group finalized a SCRMP Program Budget for the period Sept. 1, 1972 to Aug. 31, 1973 that included funding decisions on current SCRMP projects, planning applications and the Program Staff budget.

In the main, next year's funds will be utilized to finance the recently announced expansion of SCRMP's role in efforts to encourage health manpower developments, primary health care delivery patterns and regionalization of specialized care and support services.

All programs, projects and activities of the SCRMP are under the guidance and supervision of the Regional Advisory Group and its committees.

Advisory Group officers are: Dr. James W. Colbert, Jr., vice-president for Academic Affairs of the Medical University of S. C., Charleston, Chairman; Dr. Louis D. Wright, Jr., Florence, vice-chairman; William B. Finlayson, administrator of the Conway (S. C.) Hospital, co-chairman and Dr. Vince Moseley, coordinator for SCRMP and director of the Division of Continuing Education at the Medical University of S. C., secretary.

The SCRMP is a statewide effort to share with all health groups, insitutions and programs—public and private—the broad overall goals of (1) increasing the availability of health care; (2) enhancing its quality and (3) moderating its costs. This is being achieved through local cooperation and initiative on the part of physicians, nurses, dentists, hospital administrators, allied health professionals and voluntary health organizations.

Projects and Planning Studies awarded funds included (shown are title, sponsor, director's name and brief summary):

—Statewide Cancer Clinic Education and Service Program — S. C. State Board of Health, Dr. William C. Marett, to determine how a cancer clinic can be used for better patient care and physician education (Florence Cancer Clinic), with ultimate goal of expansion of such activities to all State-Aid Cancer Clinics.

—Children's Cardio-Respiratory Disease Project — Medical University of S. C. Charleston, Dr. Arno Hohn, to expand and coordinate detection, diagnostic and treatment services in children's heart and respiratory disease.

Statewide Teaching Program for Diabetics — Spartanburg County Health Department, Dr. J. C. Hedden, to expand an established teaching program designed to enable patients to control and manage their diabetes.

—Rural Mobile Health Program — Berkeley, Colleton and Dorchester counties Economic Development Corp., Walterboro, Brother John Howard, to improve primary care rendered by a visiting mobile unit through improved communications methods and expanded professional support.

—Richland Memorial Allied Health Program — Richland Memorial Hospital, Columbia, Dr. Dana C. Mitchell, to improve patient care through the organization and expansion

of clinical education programs for intensive care and outpatient services.

—Education Program for Physicians, Nurses and Allied Medical Personnel — Spartanburg General Hospital, Dr. Loren Parmley, to develop "team approach" concept by physicians, nurses and allied health personnel.

—Demonstration, Service and Education Project — Medical University of S. C., Dr. Charles P. Summerall, III, to expand the role of the Heart Clinic at MUSC into regionally-oriented education, diagnostic and treatment programs.

—Statewide Heart Clinic Education and Service Program — S. C. State Board of Health, Dr. William C. Marett, to improve specialized ambulatory heart disease services through existing state-aid heart clinics.

—Shared Bio-Engineering Service — Medical University of S. C., Thomas S. Hargest, to train engineers and technicians to perform bio-engineering services and then place trainees in area team assignments covering groups of institutions.

—Comprehensive Coronary Care for Community Hospitals — Medical University of S. C., Dr. Charles P. Summerall, to assist in the development of intensive coronary care services of high quality in community hospitals through individual consultation programs; nurses training; an EKG transmission system; and a patient registry.

—Implementation Program of Heart and Stroke Projects in S. C. — S. C. Heart Association, John Hughes, to coordinate the several projects planned by the S. C. Heart Association Task Force with all major organizations and agencies working in the area of heart disease and stroke control in South Carolina.

—Chronic Renal Disease Education and Services — Medical University of S. C., Dr. Arthur V. Williams, to expand statewide program for patient care in renal diseases, with emphasis on patient training in home dialysis and support of renal transplant service.

—A Cooperative Gynecologic/Radiotherapy Program in S. C. — Medical University of S. C., Dr. Paul Underwood, Dr. Keene Wallace, and Jimmy Fenn, to establish in S. C. a cooperative team approach to the total management of the cancer patient from the pri-


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mary family physician to the oncologist (deals with origin, cause and growth of the tumors) and associated Allied Health personnel.

—Statewide Nuclear Medicine Technician Training — Self Memorial Hospital, Greenwood, Dr. William A. Klauber, to provide an on-going Education Program in Nuclear Medicine for physicians, nurses and allied health personnel.

—Comprehensive Respiratory Disease Training Program — Medical University of S. C., Dr. Robert L. Galphin, to establish in S. C. an ongoing self-perpetuating state-wide program for continuing medical and allied health education in respiratory disease diagnosis and management.

—A Regional Program for Comprehensive Information for Medicine — Medical University of S. C. College of Pharmacy, Dr. William Henderson, to design, implement and operate a comprehensive medical and pharmaceutical information system involving poison information, drug therapy, adverse drug reaction data, and toxicological data.

—Statewide Laboratory Personnel Refresher Training — S. C. State Board of Health, Dr. Arthur DiSalvo, to upgrade the diagnostic acumen of lab technicians in S. C.

—Greenwood Area Regionalization of Coronary Care — Self Memorial Hospital, Greenwood, Kenneth Flinchum, provides linkages for EKG coronary monitoring between major and outlying hospitals.

—A Program for Continuing Education for Health Professionals, Technical and Occupational Allied Health Personnel — Division of Continuing Education of the Medical University of S. C., and the Education Section of the SCRMP, Dr. Vince Moseley, to improve and expand existing Continuing Education opportunities in the health science, professional, technical, and occupational groups throughout the region and to develop new programs.

—Stroke Nurse Training — University of S. C. School of Nursing, Dean Marjorie Sanderson, R.N., provides a regional educational program for the practicing nurse in the care of stroke patients.

—Innovative Methods for Practicing Community Pharmacists — College of Pharmacy, Medical University of S. C., Dr. William H. Golod, to design and test methods to reduce drug hazards and to insure efficacy of prescribed medication.

—Regional In-Service and Training for Hospitals — Marion County Memorial Hospital, Marion; David G. Askins, Sr., to define and test a coordinated training program for manpower development in community hospitals.

—Advanced Training for Emergency Medical Technicians — S. C. Hospital Association, Libby Alford to design and test approaches to improved regional training programs for emergency medical technicians.

—Shared Social Services Support for Community Hospitals — The Tuomey Hospital, Sumter, Ralph M. Abercrombie, Jr., to develop the role of the social services department in community hospitals to provide preadmission counseling and planned discharge services.

—Advanced Planning: Organization of S. C. Medical Care Foundation — S. C. Medical Association, M. L. Meadors, to promote improved distribution of high quality, easily accessible, medical services for the people of S. C. at reasonable costs.

—Development and Expansion of Shared Educational Programs in Community Hospitals — Self Memorial Hospital, Greenwood, Kenneth Flinchum, to develop shared educational courses and programs applicable to the needs of a major hospital and outlying community hospitals in a six-county area.

—Obstetrical Assistant Program for Aiken County — Aiken County Hospital, Aiken, Dr. Kenneth R. Owens, to develop an Obstetrical Assistant Training Program for Licensed Practical Nurses in a multi-county state district to improve prenatal and perinatal care for the rural indigent.

—Survey and Compilation of a Health Services Standards Library — State Board of Health, J. Richard Coney, to provide district health planning agencies with complete and accurate working publications on health facilities and services in the districts and state of S. C.

—A Perinatal Intensive Care Unit Prototype — Medical University of S. C., Dr. Abner H. Levkoff and Dr. Henry C. Heins, Jr., to develop a prototype model of an Obstetrical



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# When you select this familiar antibiotic for IV infusion you have available a broad dosage range that hospitalized patients may need.

Intravenous Lincocin (lincomycin hydrochloride, Upjohn), with its 1.2 to 8 grams/day dosage range, covers many serious and even life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. Lincocin IV therefore can be as useful in your hospitalized patients as its IM use has proved to be in your office patients. As with all antibiotics, *in vitro* susceptibility studies should be performed.

**1.2 to 8 grams/day IV dosage range:** Most hospitalized patients with uncomplicated pneumonias respond satisfactorily to 1.2 to 1.8 grams/day of Lincocin IV. These doses may have to be increased for more serious infections.

In life-threatening situations as much as 8 grams/day has been administered intravenously to adults.

In usual IV doses, Lincocin (lincomyci hydrochloride, Upjohn) should be diluted in 250 ml or more of normal saline solution or 5% glucose in water. But when 4 grams or more per day is given, Lincocin should be diluted in nc less than 500 ml of either solution, and the rate of administration should not exceed 100 ml/hour. Too rapid intravenous administration of doses exceeding 4 grams may result in hypotension or, in rare instances, cardiopulmonary arrest.

**Effective gram-positive antibiotic:** Lincocin IV is effective in respiratory tract, skin and soft-tissue, and bone

ctions caused by susceptible strains
neumococci, streptococci, and
hylococci, including penicillin-
tant strains. Staphylococcal strains
tant to Lincocin (lincomycin
rochloride, Upjohn) have been
vered. Before initiating therapy,
ure and susceptibility studies should
erformed. Lincocin has proved
able in treating patients hyper-
itive to penicillin or cephalosporins,
e Lincocin does not share
genicity with these compounds.
vever, hypersensitivity reactions
e been reported, some of these in
ents known to be sensitive to
cillin.

**l tolerated at infusion site:** Lincocin
venous infusions have not
luced local irritation or phlebitis,
n given as recommended. Lincocin
ually well tolerated in patients who
ypersensitive to other drugs.
ertheless, Lincocin should be used
iously in patients with asthma or
ficant allergies.

atients with impaired renal function,
ecommended dose of Lincocin
ld be reduced to 25–30% of
lose for patients with normal
ey function. Its safety in
nant patients and in infants
han one month of age has
been established.

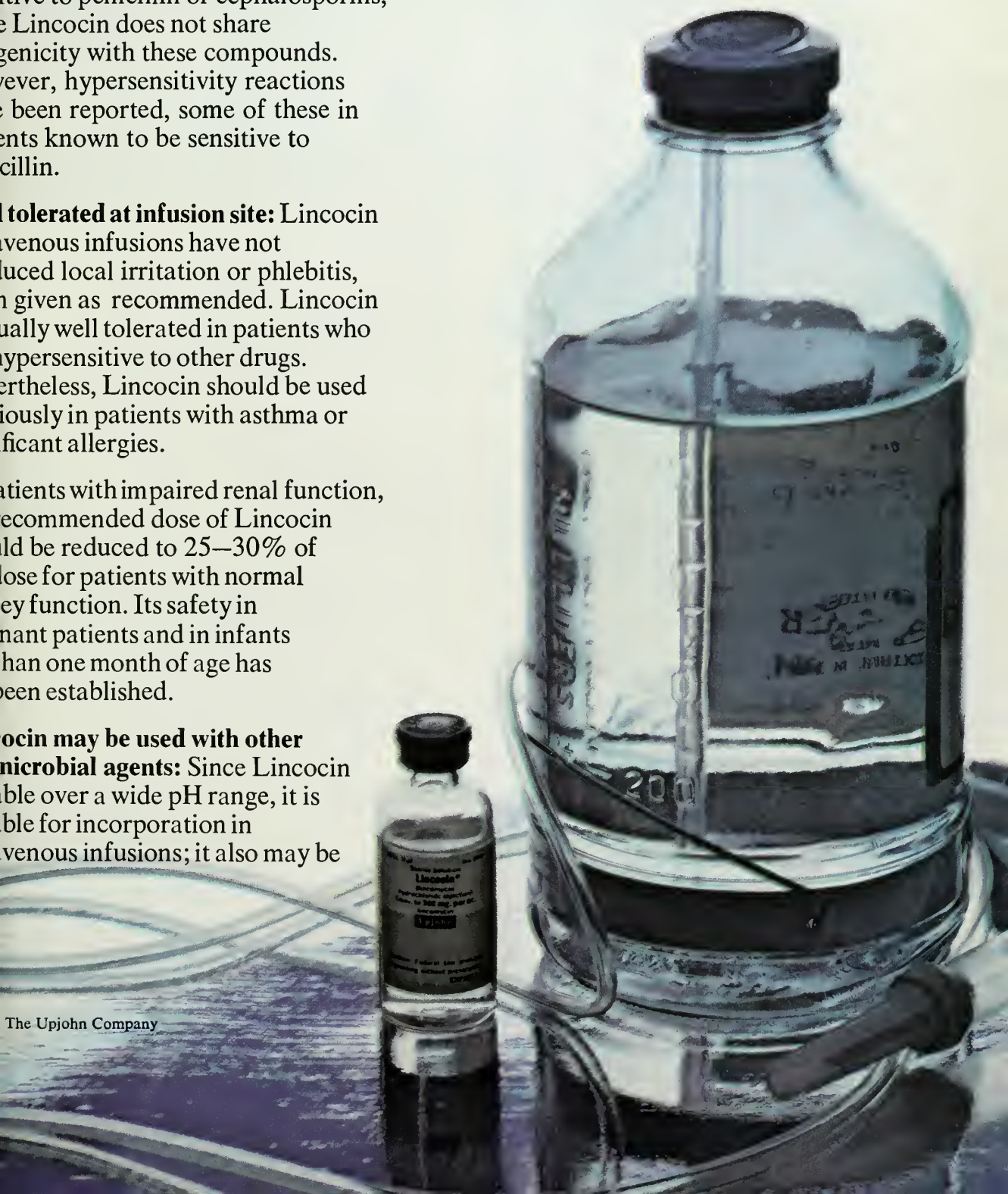
**ocin may be used with other
nicrobial agents:** Since Lincocin
ble over a wide pH range, it is
ble for incorporation in
venous infusions; it also may be
administered concomitantly with other antimicrobial agents when indicated. However, Lincocin should not be used with erythromycin, as *in vitro* antagonism has been reported.

# Lincocin®

Sterile Solution (300 mg per ml)

## (lincomycin hydrochloride, Upjohn)

For further prescribing information, please see following page.



The Upjohn Company



Sterile Solution (300 mg. per ml.)

# Lincocin®

## (lincomycin hydrochloride, Upjohn)

**Up to 8 grams per day by IV infusion for hospitalized patients with life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. As with all antibiotics, *in vitro* susceptibility studies should be performed.**

| Each preparation contains: | Lincomycin hydrochloride monohydrate equivalent to lincomycin base |
|---|---|
| 250 mg Pediatric Capsule | 250 mg |
| 500 mg Capsule | 500 mg |
| *Sterile Solution per 1 ml | 300 mg |
| Syrup per 5 ml | 250 mg |

*Contains also: Benzyl Alcohol 9 mg; and, Water for Injection—q.s.

Lincocin (lincomycin hydrochloride) is indicated in infections due to susceptible strains of staphylococci, pneumococci, and streptococci. *In vitro* susceptibility studies should be performed. Cross resistance has not been demonstrated with penicillin, ampicillin, cephalosporins, chloramphenicol or the tetracyclines. Some cross resistance with erythromycin has been reported. Studies indicate that Lincocin does not share antigenicity with penicillin compounds.

CONTRAINDICATIONS: History of prior hypersensitivity to lincomycin or clindamycin. Not indicated in the treatment of viral or minor bacterial infections.

WARNINGS: *CASES OF SEVERE AND PERSISTENT DIARRHEA HAVE BEEN REPORTED AND HAVE AT TIMES NECESSITATED DISCONTINUANCE OF THE DRUG. THIS DIARRHEA HAS BEEN OCCASIONALLY ASSOCIATED WITH BLOOD AND MUCUS IN THE STOOLS AND HAS AT TIMES RESULTED IN AN ACUTE COLITIS. THIS SIDE EFFECT USUALLY HAS BEEN ASSOCIATED WITH THE ORAL DOSAGE FORM BUT OCCASIONALLY HAS BEEN REPORTED FOLLOWING PARENTERAL THERAPY.* A careful inquiry should be made concerning previous sensitivities to drugs or other allergens. Safety for use in pregnancy has not been established and Lincocin (lincomycin hydrochloride) is not indicated in the newborn. Reduce dose 25 to 30% in patients with severe impairment of renal function.

PRECAUTIONS: Like any drug, Lincocin should be used with caution in patients having a history of asthma or significant allergies. Overgrowth of nonsusceptible organisms, particularly yeasts, may occur and require appropriate measures. Patients with pre-existing monilial infections requiring Lincocin therapy should be given concomitant antimonilial treatment. During prolonged Lincocin therapy, periodic liver function studies and blood counts should be performed. Not recommended (inadequate data) in patients with pre-existing liver disease unless special clinical circumstances indicate. Continue treatment of β-hemolytic streptococci infections for 10 days to diminish likelihood of rheumatic fever or glomerulonephritis.

ADVERSE REACTIONS: *Gastrointestinal*—Glossitis, stomatitis, nausea, vomiting. Persistent diarrhea, enterocolitis, and pruritus ani. *Hemopoietic*—Neutropenia, leukopenia, agranulocytosis, and thrombocytopenic purpura have been reported. *Hypersensitivity reactions*—Hypersensitivity reactions such as angioneurotic edema, serum sickness, and anaphylaxis have been reported, sometimes in patients sensitive to penicillin. If allergic reaction occurs, discontinue drug. Have epinephrine, corticosteroids, and antihistamines available for emergency treatme *Skin and mucous membranes*—Skin rash urticaria, vaginitis, and rare instances of foliative and vesiculobullous dermatitis ha been reported. *Liver*—Although no direct lationship to liver dysfunction is establish jaundice and abnormal liver function te (particularly serum transaminase) have be observed in a few instances. *Cardiovascu* —Instances of hypotension following par teral administration have been report particularly after too rapid IV administ tion. Rare instances of cardiopulmonary rest have been reported after too rapid administration. If 4.0 grams or more adm istered IV, dilute in 500 ml of fluid a administer no faster than 100 ml per ho *Special senses*—Tinnitus and vertigo ha been reported occasionally. *Local reactio* —Excellent local tolerance demonstrated intramuscularly administered Lincoc (lincomycin hydrochloride). Reports of p following injection have been infreque Intravenous administration of Lincocin 250 to 500 ml of 5% glucose in distil water or normal saline has produced local irritation or phlebitis.

HOW SUPPLIED: *250 mg* and *500* Capsules—bottles of 24 and 100. *Ster Solution, 300 mg per ml*—2 and 10 ml v and 2 ml syringe. *Syrup, 250 mg per 5* —60 ml and pint bottles.

*For additional product information, cons the package insert or see your Upjo representative.*

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Charles R. Wyrosdick
Director of Communications

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**American Rheumatism Association Meeting**

A one and a half day scientific meeting of the American Rheumatism Association Section of The Arthritis Foundation will take place at the Pittsburgh Hilton Hotel on December 8 and 9, 1972.

On Thursday, December 7, the traditional scientific workshops of one-half day each will be presented. The morning session is entitled "Virus Induced Transformation of Normal Cells: Lessons from Cancer Research." In the afternoon two concurrent sessions will cover "Genetic Mucopolysaccharide Storage Diseases (Mucopolysaccharidoses)" and "The *Real* Collagen Diseases." Registration fee for each session is $25.00.

An innovation (also on Thursday) will be six clinical postgraduate seminars on arthritis, directed at practicing physicians and conducted by distinguished leaders in the field. The seminars will be two hours each with two running concurrently. Registration is limited to 30 persons per seminar and the fee is $20.00 each. Topics are: "Radiology of Rheumatoid Arthritis", Laboratory Techniques in Rheumatic Disease", "The Management of Septic Arthritis", "The Examination of Renal Involvement in Connective Tissue Disease", "Ocular Syndromes in Rheumatic Disease" and "Office Rehabilitation in Rheumatic Disease."

For further information contact Miss Lynn Bonfiglio, Executive Secretary, American Rheumatism Association Section, The Arthritis Foundation, 1212 Avenue of the Americas, New York, New York 10036.


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# DEATHS

## DR. J. R. CAIN

Dr. John R. Cain, 80, died August 14 in a Kingstree hospital after a long illness. Dr. Cain reeeived his medical degree from the Medical College of Virginia in Richmond and taught at the University of Illinois for 17 years. He served as state direetor of industrial hygiene in Alabama and prior to retirement in 1958, he was direetor of tuberculosis eontrol with the Hamilton County Health Department in Chattanooga.

## DR. L. S. BRYAN

Dr. Leon S. Bryan, 63, of 1514 Wyndham Road, a Columbia dermatologist, died August 3 in Richland Memorial Hospital. He graduated from the Medieal University of South Carolina and did graduate work in dermatology at the New York Skin and Cancer Unit. Dr. Bryan had praetieed dermatology in Columbia sinee 1940.

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### WHO NEEDS THE AMA?

The eternal cry is raised, who needs the AMA? What does it do for me? It's too liberal! It's too reactionary! It's too conservative!

Anyone who has followed the AMA knows that the voices of dissension and criticism are now being heard in that organization. As all orginizations must change to survive, the AMA is changing. What direction it takes depends on those of you who are interested enough to have a part of the action.

There is not a single physician in this country today who has not benefited from the AMA when one considers the fantastic amount of work they have done on a national scale in all facets of medicine and public health. A look at their journals, magazines, committees, councils, and task forces will vouch for this.

I think it is morally unacceptable for us to share in the benefits of the AMA without supporting the AMA. (Excerpt from a speech by Edward Siegel, M.D., President of the Medical Society of New York, to MSNY.)

Editor's Note: The AMA has recently put out a pamphlet which I think you will find extremely informative and surprising. For a free copy of the pamphlet, "The American Medical Association and the American Doctor: Sharing a Common Goal," write: Dept. DW, American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610.

### Research Awards

Awards for research in the cardiovascular field and for related problems in the basic sciences are available from the South Carolina Heart Association, it is announced by Dr. Eugene Woods of the Medical University of South Carolina, Chairman of the Association's Research Committee. Deadline for applications is January 1, 1973 for grants to be activated July 1, 1973.

Post-doctoral candidates may apply for grants-in-aid up to $10,000 for one to three years and for research fellowships up to $8,500 with stipends for dependents for one to two years. Priority for fellowships will be given to those seeking matching funds from the American Heart Association or other sources. Deadline for applications to American Heart is October 1, 1972 for work beginning July-October, 1973.

Request for information and application forms may be addressed to Dr. Woods, South Carolina Heart Association, 2864 Devine Street, Columbia, South Carolina 29250.

Inquiries to the American Heart Association may be sent to the Director of Research, 44 East 23rd. Street, New York, New York 10010.

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### Proctology Seminar in Orient

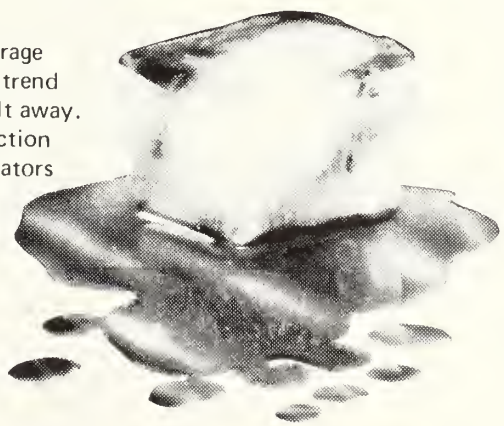
The 25th Annual Congress and Teaching Seminar of the International Academy of Proctology will be held in the Orient — April 29 to May 14, 1973 — in Tokyo, Japan; Hong Kong, and Bangkok, Thailand. Waldo W. Stiles, M.D. of Quito, Ecuador will serve as General Chairman, and Chalia Vaprabukka, M.D. and Vikit Viranuvatti, M.D. will direct the Bangkok sessions.

Scientific Sessions are planned in each of the countries, under the direction of the Program Chairman, Alvin D. Yasuna, M.D., New York City, N. Y.

Program Information Forms for speakers and additional information may be obtained by writing directly to the Executive Offices, 147-41 Sanford Avenue, Flushing, N. Y. 11355, attention Alfred J. Cantor, M.D., Executive Officer.


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## American College of Physicians Regional Meetings

*New Jersey* Regional Meeting, American College of Physicians, Nov. 1, New Jersey College of Medicine, Rutgers, New Brunswick, N. J. INFO: Harvey E. Nussbaum, M.D., 120 Millburn Ave., Millburn, N. J. 07041

*Eastern Pennsylvania* Regional Meeting, American College of Physicians, Nov. 3-4, Pocono Manor, Mt. Pocono, Pa. INFO: Francis J. Sweeney, Jr., M.D., Jefferson University Hospital, 11th and Walnut, Philadelphia, Pa. 19107

*Georgia* Regional Meeting, American College of Physicians, Nov. 4, Grady Hospital, Atlanta, Ga. INFO: Edwin C. Evans, M.D., 340 Boulevard, N.E., Atlanta, Ga. 30312

*Three-State* Regional Meeting (Del., D. C., Md.), American College of Physicians, Nov. 4, Howard University, Washington, D. C. INFO: Henry C. Ecker, M.D., 916 19th St., N.W. Washington, D. C. 20006

*Arizona* Regional Meeting, American College of Physicians, Nov. 17-18, Arizona Biltmore, Phoenix, Ariz. INFO: Ashton B. Taylor, M.D., 520 Lawrence Rd., Phoenix, Ariz. 85013

*Minnesota* Regional Meeting, American College of Physicians, Nov. 25, Radisson Hotel, Minneapolis, Minn. INFO: Howard L. Horns, M.D., 100 Melbourne Ave. S.E., Minneapolis, Minn. 55414

*North Carolina* Regional Meeting, American College of Physicians, Dec. 1, Red Carpet Inn, Charlotte, N. C. INFO: Joseph B. Stevens, M.D., 1017 Professional Village, Greensboro, N. C. 27401

*Pacific Northwest* Regional Meeting (B.C., Ida., Ore., Utah, Wash., Alaska), American College of Physicians, Dec. 1-2, University of Washington Medical School, Seattle, Wash. INFO: William E. Watts, M.D., 1105 Minor Ave., Seattle, Wash. 98101

*Texas* Regional Meeting, American College of Physicians, Dec. 1, Dallas, Tex. INFO: Ralph R. Tompsett, M.D., 3500 Gaston Ave., Dallas, Tex. 75246

*New Mexico* Regional Meeting, American College of Physicians, Dec. 8-9, Hilton Inn, Albuquerque, N. M. INFO: Thomas L. Carr, M.D., 719 Parkland Circle, S.E., Albuquerque, N.M. 87108

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## Parasite Symposium

South-Wide Symposium on Human Nematode Intestinal Parasites, sponsored by the University of South Carolina, to be held in Atlanta, Georgia, on November 30 and December 1, 1972.

Interested parties should contact James W. Follette, Project Assistant, Malnutrition and Parasite Project, 002 Maxcy College, University of South Carolina, Columbia, South Carolina, 29208, telephone (803) 777-3857 or 8138.



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*Contraindications:* Not for use in the external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of its components.

Complete literature available on request from Professional Services Dept. PML.

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The course will also cover inhalants, chemicals, drugs, fungi, yeasts, viruses, hormones, terpenes, air-pollutants, insects, and contact dermatitis.

The registration fee of $125.00 also covers one dinner and two luncheons. To register for the course send name, address, and check (payable to Provocative Allergy Course) to: Joseph B. Miller, M.D.; 3 Office Park, Suite 110; Mobile, Alabama 36609.

Room reservations should be made directly with the hotel.


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**An Act To Provide That Minors May Obtain Medical Services With The Consent Of No Other Person Being Necessary.**

Be it enacted by the General Assembly of the State of South Carolina:

**SECTION 1.** Any minor who has reached the age of sixteen years may consent to any health services from a person authorized by law to render the particular health service for himself and the consent of no other person shall be necessary unless such involves an operation which shall be performed only if such is essential to the health or life of such child in the opinion of the performing physician and a consultant physician if one is available.

**SECTION 2.** Health services of any kind may be rendered to minors of any age without the consent of a parent or legal guardian when, in the judgment of a person authorized by law to render a particular health service, such services are deemed necessary unless such involves an operation which shall be performed only if such is essential to the health or life of such child in the opinion of the performing physician and a consultant physician if one is available.

**SECTION 3.** Any minor who has been married or has borne a child may consent to health services for the child.

**SECTION 4.** Any consent given pursuant to this act shall not be subject to disaffirmance because of minority when such minor reaches majority.

**SECTION 5.** This act shall take effect upon approval by the Governor.

In the Senate House the 1st day of June.

In the Year of Our Lord One Thousand Nine Hundred and Seventy-Two.

EARLE E. MORRIS, JR.,
*President of the Senate.*

SOLOMON BLATT,
*Speaker of the House of Representatives.*

Approved the 2nd day of June, 1972.

JOHN C. WEST,
*Governor.*

Printer's No. 214—S.

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PHYSICIAN — Opening with the C. M. Tucker, Jr. Human Resources Center, a division of the South Carolina Department of Mental Health, for a Physician. Program designed toward therapeutic community emphasizing psychotherapy, group therapy, group activities, standard forms of somnatic treatment, general medicine and psychiatry. Eligibility for licensure in the State of South Carolina is required. Foreign graduates with the exception of Canadian graduates must have ECFMG Certificate. Salary from $18,500.00 to $24,350.00 dependent upon experience and qualifications. Up-to-date personnel practices with liberal vacation and sick leave, retirement plan, commissary privileges and other benefits. Apply to: Frank E. Blakely, Administrator C. M. Tucker, Jr. Human Resources Center, 2200 Harden Street, Columbia, S. C. 29203.
EQUAL OPPORTUNITY EMPLOYER

The American Medical Association supported a two-year extension of the federal National Health Service Corps program under which Public Health Service personnel are assigned to areas with critical health manpower shortages.

Richard E. Palmer, M.D., a member of the AMA Board of Trustees, told the House Health Subcommittee, that the Association believed that the NHSC program, which got underway 18 months ago, was having "an auspicious beginning" and promised "to help alleviate the maldistribution of health personnel affecting shortage areas." He said, "its capabilities for bringing needed services into shortage areas are yet to be fully demonstrated."

"Additional experience will permit a fuller evaluation of the program's potential," Dr. Palmer said. "In supporting the NHSC, however, we believe it is essential that incentives now contained in the program are retained so that we may hopefully achieve our overall objective of meeting community needs on a long-term, continuing basis."

The AMA spokesman objected strenuously to a proposed deletion of a requirement for certification by state and district health societies that such health personnel are needed before assignment to a particular area.

. . . Much of the . . . planning to date has been centered around community participation in the NHSC program to further encourage the Corps physicians, dentists and other professionals to feel they are part of the community life," Dr. Palmer said. "We urge this committee not to take any action now which would block communities and professionals from attaining this goal.

"Certification by the physician's or dentist's peers — the local members of his own profession — that his services are needed, together with concurrence by local government, provides the strong and necessary base of community acceptance and participation in his assignment. Removing this base could erect barriers and prevent the level of contact and rapport with peers which are significant factors in stimulating the professional man to establish professional roots in a community.

Furthermore, the record of cooperation by the medical profession at the local, state, and national levels speaks against the proposed amendment deleting the certification provision. The AMA has worked closely with the NHSC to help make the NHSC a reality.

. . . At the Corps' request, the AMA has also distributed to all state medical associations and county medical societies brochures on the program, together with lists of NHSC personnel in central and regional offices to be contacted, requesting assistance in identifying areas particularly short of health manpower. All of these activities, and others, have been undertaken to inform state and local medical societies of the program's interest, method of operation, and goals.

"Most recently the Association has contracted with the Corps for the AMA to recruit physicians to serve in areas of need on a short-term basis. This undertaking, which we call "Project U.S.A.," will be a valuable adjunct to the Corps in its operational phases of its program.

"In short . . . the AMA has actively provided assistance in the implementation of the NHSC. The medical profession shares . . . with government, and with communities the common goal of getting needed medical services into shortage areas.

"Even more directly than our activities at the national level, we believe that the measure of success to date of this new program can be attributed to the cooperation received at the local level from the various medical communities. It should be kept in mind that the great number of assignments of physician personnel made in this program to date have been possible *because* the local and state societies have certified to the need for such health personnel. As a fact, in some instances, the medical society has been a moving party in seeking assignment of personnel under this program.

". . . we believe that the foregoing is strong evidence that the active participation of organized medicine is to the advantage, and not to the detriment of the program. We must assert strongly that we are opposed to the deletion of the present certification require-

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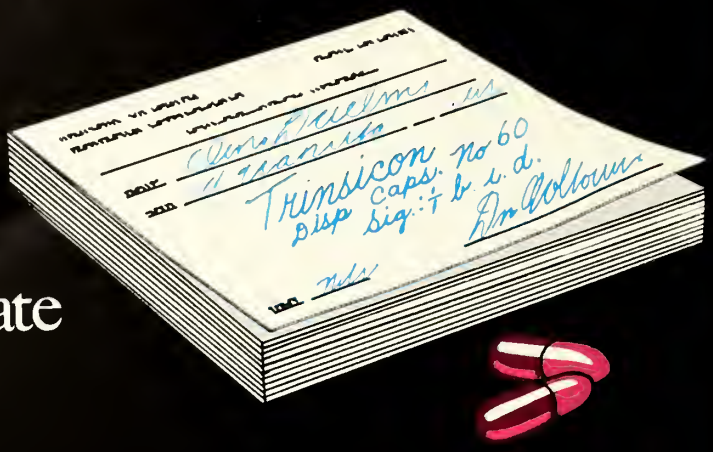
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| | |
|---|---|
| Special Liver-Stomach Concentrate, Lilly (containing Intrinsic Factor) | 240 mg. |
| Cobalamin Concentrate, N.F., equivalent to Cobalamin | 7.5 mcg. |
| Iron, Elemental (as Ferrous Fumarate) | 110 mg. |
| Ascorbic Acid (Vitamin C) | 75 mg. |
| Folic Acid | 0.5 mg. |

(The total vitamin $B_{12}$ activity in the Special Liver-Stomach Concentrate, Lilly, and the Cobalamin Concentrate, N.F., is 15 micrograms.)

**Indications:** Trinsicon is a multifactor preparation effective in the treatment of anemias that respond to oral hematinics, including pernicious anemia and other megaloblastic anemias and also iron-deficiency anemia. Therapeutic quantities of hematopoietic factors that are known to be important are present in the recommended daily dose.

*Vitamin $B_{12}$ with Intrinsic Factor*—When secretion of intrinsic factor in gastric juice is inadequate or absent (e.g., in Addisonian pernicious anemia or after gastrectomy), vitamin $B_{12}$ in physiological doses is absorbed poorly, if at all. The resulting deficiency of vitamin $B_{12}$ leads to the clinical manifestations of pernicious anemia. Similar megaloblastic anemias may develop in fish tapeworm (*Diphyllobothrium latum*) infection or after a surgically created small-bowel blind loop; in these situations, treatment requires freeing the host of the parasites or bacteria which appear to compete for the available vitamin $B_{12}$. Strict vegetarianism and malabsorption syndromes may also lead to vitamin $B_{12}$ deficiency. In the latter case, parenteral therapy, or oral therapy with so-called massive doses of vitamin $B_{12}$, may be necessary for adequate treatment of the patient.

Potency of intrinsic factor concentrates is determined physiologically, i.e., by their use in patients with pernicious anemia. The liver-stomach concentrate with intrinsic factor and the vitamin $B_{12}$ contained in two Pulvules Trinsicon provide 1½ times the minimum amount of therapeutic agent which, when given daily in an uncomplicated case of pernicious anemia, will produce a satisfactory reticulocyte response and relief of anemia and symptoms.

Concentrates of intrinsic factor derived from hog gastric, pyloric, and duodenal mucosa have been used successfully in patients who lack intrinsic factor. For example, Fouts *et al.* maintained patients with pernicious anemia in clinical remission with oral therapy (liver extracts or intrinsic factor concentrate with vitamin $B_{12}$) for as long as twenty-nine years.

After total gastrectomy, Ficarra found multifactor preparations taken orally to be "just as effective in maintaining blood levels as any medication that has to be administered parenterally." His study was based on twenty-four patients who had survived for five years after total gastrectomy for cancer and who had been taking two Pulvules Trinsicon daily.

*Folic Acid*—Folic acid deficiency is the immediate cause of most, if not all, cases of nutritional megaloblastic anemia and of the megaloblastic anemias of pregnancy and infancy; usually, it is also at least partially responsible for the megaloblastic anemias of malabsorption syndromes, e.g., tropical and nontropical sprue.

It is apparent that in vitamin $B_{12}$ deficiency (e.g., pernicious anemia), lack of this vitamin results in impaired utilization of folic acid. There are other evidences of the close folic acid-vitamin $B_{12}$ interrelationship: (1) $B_{12}$ influences the storage, absorption, and utilization of folic acid, and (2), as a deficiency of $B_{12}$ progresses, the requirement for folic acid increases. However, folic acid does not change the requirement for vitamin $B_{12}$.

*Iron*—A very common anemia is that due to iron deficiency. In most cases, the response to iron salts is prompt, safe, and predictable. Within limits, the response is quicker and more certain to large doses of iron than to small doses.

Each Pulvule Trinsicon furnishes 110 mg. of elemental iron (as ferrous fumarate) to provide a maximum response.

*Ascorbic Acid*—Vitamin C plays a role in anemia therapy. It augments the conversion of folic acid to its active form, folinic acid. In addition, ascorbic acid promotes the reduction of ferric iron in food to the more readily absorbed ferrous form. Severe and prolonged vitamin C deficiency is associated with an anemia which is usually hypochromic but occasionally megaloblastic in type.

**Contraindications and Precautions:** Anemia is a manifestation that requires appropriate investigation to determine its cause or causes.

Folic acid *alone* is unwarranted in the treatment of pure vitamin-$B_{12}$-deficiency states, such as pernicious anemia. Indeed, the use of folic acid in large doses in pernicious anemia without adequate vitamin $B_{12}$ may result in hematologic remission but neurological progression.

As with all preparations containing intrinsic factor, resistance may develop in some cases of pernicious anemia to the potentiation of absorption of physiological doses of vitamin $B_{12}$. If resistance occurs, parenteral therapy, or oral therapy with so-called massive doses of vitamin $B_{12}$, may be necessary for adequate treatment of the patient. No single regimen fits all cases, and the status of the patient observed in follow-up is the final criterion for adequacy of therapy. Periodic clinical and laboratory studies are considered essential and are recommended.

In extremely rare instances, skin rash suggesting allergy has been noted following the oral administration of liver-stomach material. Allergic sensitization has been reported following both oral and parenteral administration of folic acid.

Hemochromatosis and hemosiderosis are contraindications to iron therapy.

**Adverse Reactions:** In rare instances, iron in therapeutic doses produces gastrointestinal reactions, such as diarrhea or constipation. Reducing the dose and administering it with meals will minimize these effects in the iron-sensitive patient.

**Dosage:** One Pulvule twice a day. (Two Pulvules daily produce a standard response in the average uncomplicated case of pernicious anemia.)

**How Supplied:** Pulvules Trinsicon® (hematinic concentrate with intrinsic factor, Lilly), in bottles of 60 and 500 and in Identi-Dose® (unit dose medication, Lilly) in boxes of 100. [090971]

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## Hematinic Concentrate with Intrinsic Factor
## A Comprehensive Hematinic

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ments in the law. The record of cooperation warrants continuing these requirements. The absence of such requirements could defeat the goal we all share."

The AMA also recommended:

Continuation of a provision giving the Secretary of Health, Education and Welfare latitude as to the use of PHS facilities, rather than requiring their use as proposed.

Against providing additional medical training scholarship arrangements in connection with the program.

President Nixon signed into law legislation providing for expanded research programs to combat heart and lung diseases.

The National Heart and Lung Institute is authorized to increase its expenditures for such research to $1.38 billion over the next three years.

The new law provides for a comprehensive program for research into the cause and the prevention of all forms of heart, lung, and blood diseases; research into basic biological processes; research into techniques, drugs and devices used in diagnosis and treatment; establishment of programs for field studies and large-scale testing and . . . demonstration of preventive therapeutic and rehabilitative approaches, including emergency medical services for persons suffering from heart and lung diseases; public and professional education relating to all aspects of these diseases.

The bill also authorizes the Heart and Lung Institute to provide for the development of 15 new centers for basic and clinical research into the diseases of the heart, blood vessels, and blood, and 15 new centers for basic and clinical research into lung diseases.

The research program for these diseases is upgraded similarly to the expansion of cancer research authorized last year.

Establishment of a military medical school is authorized under a recently enacted law.

A companion program will provide up to 5,000 full federal scholarships in effect at one time would-be physicians to go to civilian medical schools if they agree to serve in the armed services for five to seven years after graduation. The scholarships would provide the full cost of tuition and fees and $100 a week living allotment.

The military medical school is to be called the Uniformed Services University of the Health Sciences and is to be located within 25 miles of Washington, D. C.( It will be set up to have 100 graduates a year.

Authorization of the military medical school capped with success a long fight of Rep. F. Edward Hebert (D., La.), chairman of the House Armed Services Committee. This year, the House approved the school but the Senate only approved a study of the proposal. However, Hebert succeeded in getting the House-Senate conferees to approve establishment of the school.

A report on the conference on the legislation said the Senate conferees "pointed out their concern over the apparent lack of any clear concensus in the government and the health professions as to the need and desirability of establishing such a university . . . and questioned the overall philosophy embodied in the principle of establishing a university of this type entirely supported by federal funds."

Related legislation, which was supported by the American Medical Association, would raise the pay of military physicians to attract them to the armed services. Ernest B. Howard, M.D., Executive Vice President of the AMA, wrote the House Armed Services Committee:

"The American Medical Association supports the principle of providing special incentives through which the Armed Forces may secure and retain qualified medical officers on active duty. This approach is entirely consistent with the concept of an all-volunteer Armed Force, which would require adequate manpower in the critical health professions. We support incentives designed to provide adequate medical manpower on a more equitable financial basis."

A report of the National Cancer Institute indicates a substantial betterment in patient survival in some forms of the disease.

The fourth annual "End Results in Cancer" was prepared by the Institute-sponsored End Results Group. It summarizes the survival experience of white patients diagnosed with cancer from 1940 through 1969 in more than 100 United States hospitals. Similar information on black Americans is currently being

eolleeted and analyzed for future publieation. The data eover 52 anatomieal sites of eaneer, treated by surgery, radiation and ehemotherapy. Varying survival rates up to 15 years are given for eaeh form of eaneer.

The report indicates several eaneer sites for whieh there is marked improvement in patient survival. The three year survival rates for patients whose eaneers were diagnosed from 1965-69 show an inerease over the rates of those diagnosed from 1940-49 for the following:

| *Types of Cancer* | *3-Year Survival 1940-49* | *3-Year Survival 1965-69* |
|---|---|---|
| Bladder | 48% | 62% |
| Brain | 28 | 37 |
| Chronie lymphoeytie leukemia | 33 | 53 |
| Larynx | 47 | 67 |
| Melanoma of the skin | 49 | 74 |
| Multiple myeloma | 10 | 27 |
| Prostate | 49 | 66 |
| Thyroid | 67 | 86 |

Other findings in the report:

Other eaneers for whieh there have been important inereases in patient survival since the 1940's are ehildhood leukemia, Hodgkin's disease and breast eaneer. The one year survival rate for ehildren under 15 with leukemia indieates eontinuing progress and provides hope for further improvement. The rate has inereased from 36 per eent in 1955-64 to 59 per cent in 1965-69. Among ehildren with acute lymphoeytie leukemia diagnosed in 1965-69, the one year survival rate was 67 per eent. Due to greatly improved methods of ehemotherapy, radiation teehniques and life support systems, the three year survival rate for ehildren has inereased from less than 6 per eent to 15 per eent over the past 10 years. This represents the results aehieved in a broad eross-seetion of hospitals.

Similar progress has also been noted in the treatment of patients with Hodgkin's disease. Twenty years ago only 35 per eent of Hodgkin's disease patients survived three years; among patients diagnosed in 1965-69, 61 per eent survived three years.

The outlook has also improved for women with breast eaneer. For all stages of breast eaneer, the three year survival rate has increased from 63 per eent 20 years ago to 72 per eent in the most reeent time period. Of patients with loealized disease diagnosed during 1965-69, 91 per eent were alive three years after diagnosis.

However, there has been little or no improvement in life expeetaney for patients with lung eaneer and eaneer of the panereas. Lung eaneer is the most eommon male eancer with 62,000 new eases and 56,000 deaths annually among U.S. men, and ineidenee is still increasing. There has been little ehange sinee the 1940's in the proportion of eases elassified as loealized at diagnosis — only 18 per eent in 1965-69. However, treatment results for localized forms of the disease have improved. For all lung eaneers, the three year survival rate is only 11 per eent; for loealized disease, the three year rate has inereased from 17 per eent in the 1940's to 39 per eent in 1965-69.

Survival rates for eaneer of the panereas have shown no improvement over the past 20 years. During this time interval ineidenee has risen from 7 eases per 100,000 persons to 9 per 100,000. An estimated 19,000 new eases are diagnosed eaeh year in the United States. Over 90 per eent of these patients die within one year. The three year survival rate of the 1940's, 2 per eent, for all stages of this disease has not improved in reeent times. Even when deteeted in the early stages, the three year survival rate is still only 4 per eent.

Most eaneers are diagnosed after middle age. Seventy-five per eent of all eaneers among U.S. men and 63 per eent of eaneers in women are diagnosed at age 55 or over. Generally, the outlook for survival deereases with age. For eaneer patients 15 and under, however, life expeetaney is as low as for patients 65 years of age or older.

Women survive longer after eaneer diagnosis than men. For example, only 31 per eent of men with eaneer survive five years or longer while 42 per eent of women patients live 10 years or more. This pattern holds true for loealized as well as for all stages of eaneer, and for eaeh age group.

The marked survival advantage of female patients is due in part to the faet that for the



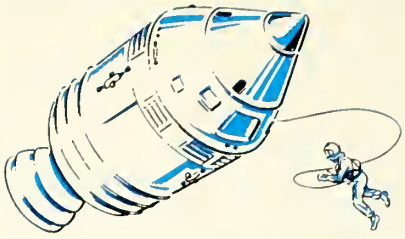

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major cancers in women (breast, colon, uterine cervix and uterine corpus) survival is more favorable than for those occurring most frequently in men (lungs, prostate, colon and bladder). In addition for most cancer sites common to men and women, survival rates are higher for women.

Surgery is the most used form of treatment. During the 10-year period 1955-64, 55 per cent of all patients were treated by surgery, 29 per cent by radiation and 18 per cent by chemotherapy. Although surgery has remained the treatment of choice in recent years, more patients are receiving radiotherapy (34 per cent) and chemotherapy (22 per cent).

Early detection, while the cancer is localized or limited to the organ of origin, offers the best opportunity for control. There has been an encouraging increase in the proportion of cancers of the breast, prostate, bladder, and brain and melanoma of the skin being diagnosed while localized. The percentage of breast cancers localized at diagnosis has increased from 38 per cent to 47 per cent in the past 20 years; for prostatic cancer, the percentage localized has increased from 49 per cent to 63 per cent in the same time period.

Women with cancers of the cervix and body of the uterus have a good outlook for survival, particularly when their cancers are diagnosed while localized. The three year survival rates for women with early disease are 82 per cent for cervix and 88 per cent for the body of the uterus. For all stages, long-term survivals are also encouraging, with 10-year survival rates of 55 per cent for women with cervical cancer and 69 per cent for patients with cancer of the body of the uterus.

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*"The history of science, and in particular the history of medicine . . . is . . . the history of man's reactions to the truth, the history of the gradual revelation of truth, the history of the gradual liberation of our minds from darkness and prejudice."*

*—George Sarton, from "The History of Medicine Versus the History of Art"*

# Are combination drug products useful in treatment involving concomitant use of two or more drugs?

# Opinion

**Results of a questionnaire to 7,000 physicians:**

**62.9%**
**Believe combination drug products are useful.**

**13.8%**
**Do not believe combination drug products are useful.**

# Are combination drug product useful in treatment involvin concomitant use of two or more drugs

Opinion & Dialogue

## Doctor of Medicine

Louis Lasagna, M.D.
Professor and Chairman
Department of
Pharmacology & Toxicology
University of Rochester
School of Medicine
and Dentistry



Obviously, many drugs are given concomitantly. Whether it makes sense to combine medications in one preparation, be it capsule, tablet, or liquid, is a question that can he answered only by examining the advantages and disadvantages in the individual case.

Among the advantages is, first of all, convenience. The more medications that are taken concurrently and the more complicated the directions, the less likely the patient is to take medications accurately. From the standpoint of convenience and accuracy, and economy as well, you can make an important case for putting medications together in one preparation, as long as they are compatible.

By the same token, when you prescribe a properly tested and rational combination, you should have less worry about pharmaceutical or pharmacological compatibility – and about reasonable dosage ratios as well. Compatibility of the formulation should he demonstrated in the laboratory and clinic before the product is available for prescription—which is more than can usually he said for the physician's own spontaneous creations. And, the dosage ratios employed in rational precompounded combinations are designed to meet the needs of substantial numbers of "typical" patients.

There is no doubt that many "atypical" patients are to be found, and for them the prefabricated combination must be rejected. But that hardly argues for eliminating rational combinations from the market. Think, for example, of the problems that would arise if the components of widely accepted combinations, like the oral contraceptives and the diuretic-antihypertensives, always had to be prescribed, purchased and ingested separately.

One disadvantage that comes to mind is some doctors' unawareness of the ingredients a given combination contains. For example, a doctor might know that a patient is allergic to aspirin hut forget that a certain analgesic mixture, which he knows only hy its trade name, contains aspirin. His prescription, then, causes considerable discomfort, to say the least. This problem is a function of physician education, rather than of combination therapy as such. Improving doctors' knowledge about all medicaments they prescribe is a prohlem that deserves tackling on its own.

Another accusation leveled at combination drugs is that they encourage sloppiness of diagnosis and treatment. In many cases, however, a combination may prove to be the most effective choice. A good example of the usefulness of combinations appears in a recent article in the *Journal of Chronic Diseases* on the efficacy and side effects of an antihypertensive containing three ingredients, in which the track records of the combination drug and the individual ingredients were compared. Interestingly enough, whether the drugs were given individually or together, incidence and severity of side effects were the same. But hlood pressure control was invariably better when the drugs were taken in one comhination tablet than when they were taken separately (in "titratahle" dosage) or in two or three different tablets.

Deciding which combinations constitute rational therapy obviously leads to a discussion of who is to determine which should be used and which should not. Realistically, I think combinations should be evaluated somewhat differently if they are old and established or new and untried.

In today's regulatory atmosphere, there is no possibility of a new combination being put on the market without a substantial amount of acceptable evidence in the form of controlled trials that show it to be safe and efficacious. On the other hand, I believe a different set of standards should apply to combination preparations that have been around for a long time. In other words, physician acceptance over a long period should be given some weight as evidence of the efficacy and safety of these drugs.

The FDA, however, does not seem to share this attitude. It often requires, for these older products, controlled trials that will monopolize the time of already overtired investigators and cost a great d of money. I wish we co agree on a "grandfat clause" approach to pre rations that have been in for a number of years a that have an apparen satisfactory track record

For example, I thi some of the antibiotic c binations that were tal off the market by the FI performed quite well. I thinking particularly penicillin - streptomy combinations that patie —especially surgical tients—were given in injection. This made less discomfort for the tient, less demand nurses' time, and fe opportunities for dos errors. To take suc preparation off the mar doesn't seem to be g medicine, unless actual age showed a great deal harm from the injecti (rather than the pro use) of the combination

The point that should emphasized is that th are both rational and ir tional combinations. T real question is, who sho determine which is whi Obviously, the FDA m play a major role in m ing this determination. fact, I don't think it avoid taking the ultim responsibility, hut it sho enlist the help of outs physicians and experts assessing the evidence in making the ultimate cision.

# laker of Medicine

Clarke Wescoe, M.D.
President
ithrop Laboratories



two medications are effectively to treat a n condition, and it is n that they are com- e, it clearly is useful onvenient to provide in one dosage form. uld make no sense, in t would be pedantic, sist they always be ribed separately. To the appearance of try, the "expert" de- the combination be- it is a fixed dosage When the "expert" es the concept of fixed e form he obscures act that single-ingre- pharmaceutical prep- ons are also fixed e forms. By a singular tic exercise he im- a pejorative meaning e term "fixed dose" when he uses it with ct to combinations. is ignored is the sim- act that only in the t of circumstances ny physician attempt rate an exact thera- response in his pa- It is quite possible ome aches and pains espond to 500 mg. of n yet that fact does ilitate against the *us-* se being 650 mg. other semantic ploy called into play is to ihe a combination ct as rational or irra- .

e antibiotic mixtures, urce of much of the sm generated against combinations generally. Obviously, no one should be exposed willy-nilly to the potential side effects of two or three antibiotics when only one is needed. At the same time there are cases where it is prudent to prescribe more than one. The clinician is the judge in these circumstances, as he should be.

There is no clear definition of the word rational. Most persons, I suppose, would find it synonymous with reasonable, but in many circumstances it may best be defined as the opinion of those in power at the moment.

Other factors govern combination therapy, not the least of which has been its broad use by practicing physicians anxious to achieve convenience in prescribing, to reduce medication error, and to save money for their patients. Combinations clearly have met the test on all three counts.

I have been impressed by studies showing that the rate of error climbs markedly with the number of medications to be taken, even with sophisticated patients. When medically justified, therefore, this factor alone supports the logic of combination therapy.

The cost argument for combinations appears to be irrefutable. In 1971, R. A. Gosselin studied the 71 combination products (excluding oral contraceptives) among the 200 most prescribed drugs. The study found that if all 71 products were discontinued, and if each ingredient in these combinations were prescribed separately, the price of medicines to patients would jump by $443.2 million on a national basis! At a time when the cost of medical care is under so much fire, it would be nonsensical to boost costs without clearly irrefutable medical reasons.

The part played by government on this question, of course, is fundamental. The FDA should play a role in determining which combinations are reasonable. That role, as defined by law and regulation, is to ensure that any medication on the market is safe and effective in line with its label claims. Certainly combinations are entitled to as much consideration as single entities—neither more nor less. So long as the addition of one drug to another does not make either less safe, or less effective, so long as they are compatible in a formulation, we have a reasonable product. It makes no sense to recommend the use of two products for certain conditions and to deny their being combined in a single form. An unhappy side effect of the problem concerns the efficacy panel discussions of many products submitted for review. The term "effective, but" has been freely interpreted to mean "ineffective" in toto, regardless of the merit of the individual drugs. This interpretation has placed numerous useful combination products in needless jeopardy.

In reading the actual reports of the review panels, it seems clear that some of the ratings were based less on scientific research and clinical observation than on the "informed" opinions of the panelists. These "informed" opinions were accepted at face value, while the "informed" opinions of others who had used the products were rejected. All of this put combination products into a sort of scientific never-never land.

It should be kept in mind by all, government as well as others involved in our health care system, that advances in therapy are seldom made in leaps and bounds but rather by small painstaking steps—and that some of these steps have resulted from research in combination drugs as well as with single entities. Given the near-infinite biologic variation in patient response, this is hardly surprising to clinicians. It should not be to regulatory agencies either.

In the end, the practicing physician is in the best position to decide if a particular combination makes sense. Such a decision should not be made exclusively by those whose responsibility for continuing clinical care is limited. Clinicians are the best judges of efficacy because the ultimate proof of any product's effectiveness is acceptance by physicians who have observed its actions in patients over time. The corollary statement may be made about over-the-counter medicines, which would not long survive if they failed to afford the relief the user anticipates. That the antihistamine in a "cold" remedy may not *always* be necessary is no reason to proscribe the combination generally.

## Opinion & Dialogue

**What is your opinion, doctor?**
**We would welcome your comments.**

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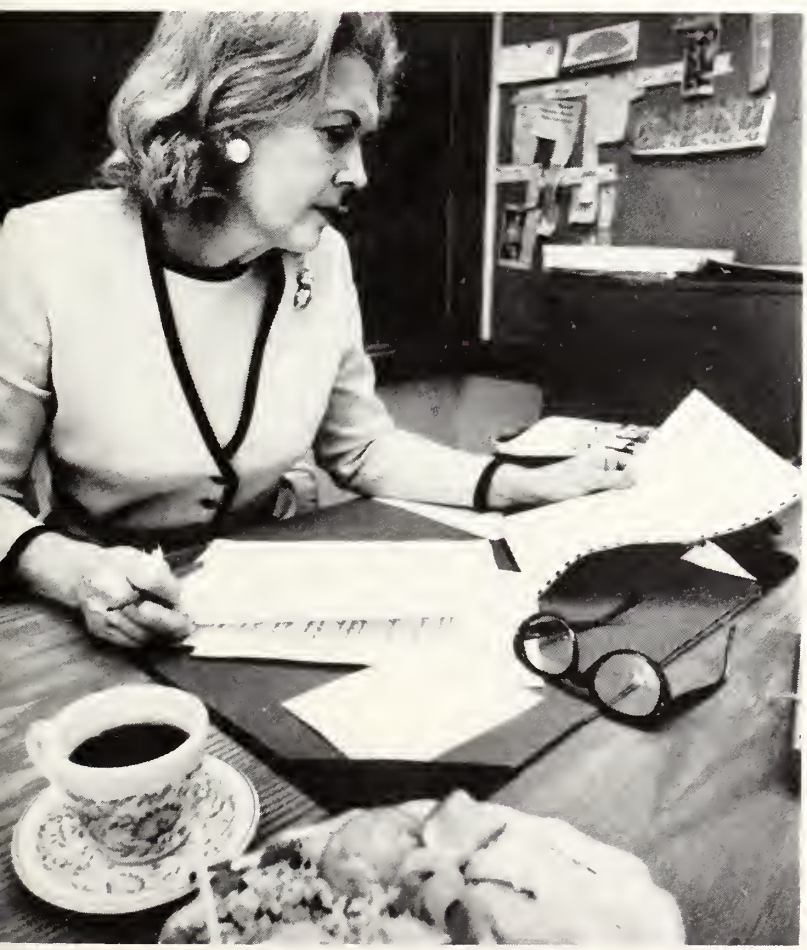
R., 47, high school English
er. A history of anorectal
nd burning of several
duration. On and off
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Librium (chlordiazepoxide HCl) is used as adjunctive antianxiety therapy concomitantly with certain specific medications of other classes of drugs, such as cardiac glycosides, antihypertensive agents, diuretics, anticholinergics and antacids.

**Antianxiety effectiveness:** Demonstrated in a broad range of psychologic and physical dysfunctions; indicated when reassurance and counseling are not enough and until, in the physician's judgment, anxiety has been reduced to tolerab appropriate levels.

**Effect on mental acuity:** Usually minimal or proper maintenance dosage.

**Safety:** An excellent clinical record. In gener use, the most common side effects reported hav been drowsiness, ataxia and confusion, particularly in the elderly and debilitated.

**in relief of clinically significant anxiety**

**Librium®**
**(chlordiazepoxide HCl)**

**5-mg, 10-mg, 25-mg capsules**
**up to 100 mg daily in severe anxiety**

10 Shattuck Street
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**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Relief of anxiety and tension occurring alone or accompanying various disease states.

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are rev ble in most instances by proper dosag adjustment, but are also occasionally served at the lower dosage ranges. In few instances syncope has been repo Also encountered are isolated instanc skin eruptions, edema, minor menstr irregularities, nausea and constipatio extrapyramidal symptoms, increased decreased libido—all infrequent and generally controlled with dosage redu tion; changes in EEG patterns (low-vo fast activity) may appear during and treatment; blood dyscrasias (includi agranulocytosis), jaundice and hepat dysfunction have been reported occa ally, making periodic blood counts an liver function tests advisable during tracted therapy.

**Supplied:** Librium® capsules containi 5 mg, 10 mg or 25 mg chlordiazepox HCl. Libritabs® tablets containing 5 m 10 mg or 25 mg chlordiazepoxide.

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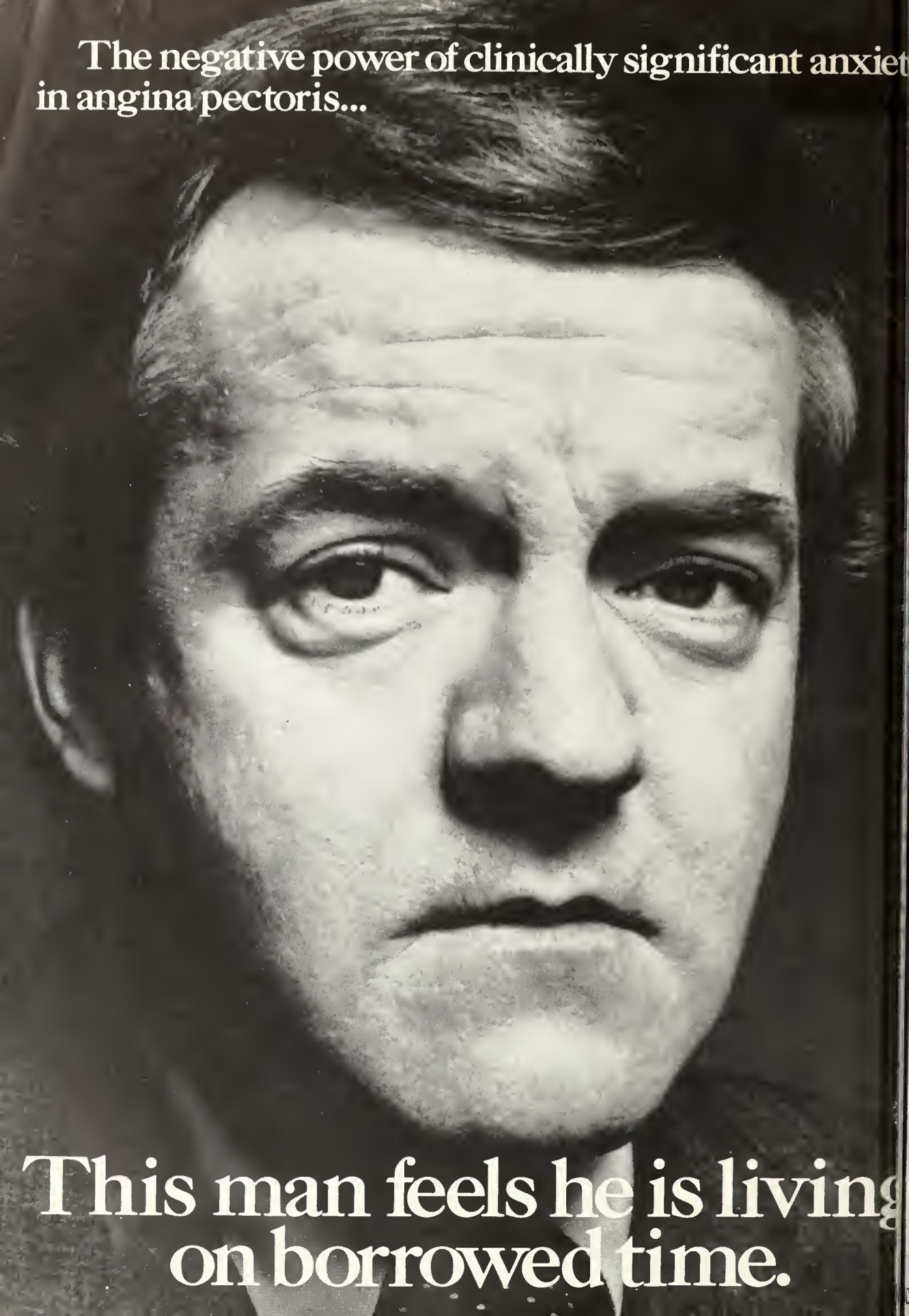

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*Additional information available to the profession on request.*

The negative power of clinically significant anxiet
in angina pectoris...



# This man feels he is living on borrowed time.

# During anginal attacks, patients may suffer intense prehension. More frequently, however, they experience a ntinuing sense of less severe but nonetheless disproportionate anxiety.

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# Reduction of such clinically significant anxiety is important, since undue emotional stress may precipitate further anginal episodes.

*junctive Librium (chlordiazepoxide HCl) may be ecially suitable* for relief of clinically significant iety and emotional tension in anginal patients ause of its generally prompt therapeutic effectives and wide margin of safety. In a recent double-blind domized study,* Librium (chlordiazepoxide HCl) administered for relief of moderate anxiety in 20 inal patients seen in office practice over a 20-week iod. Symptoms of emotional distress related to iety were rated at base-line, one week, two weeks monthly thereafter. Relief was obtained notably y in therapy. The clinical results demonstrated that rium offers the coronary patient an antianxiety drug t, in the author's opinion, is both effective and safe. general use, the most common side effects reported e been drowsiness, ataxia and confusion, ticularly in the elderly and debilitated. (See mary of prescribing information.)

*rium (chlordiazepoxide HCl) is used concomitantly* n certain specific medications of other classes of gs, such as cardiac glycosides, diuretics and antihytensive agents, whenever anxiety is clinically signifit. The drug should be discontinued after anxiety has n reduced to appropriate levels.

## The positive power of adjunctive Librium® (chlordiazepoxide HCl)

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## for moderate to severe anxiety companying angina pectoris

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**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

**Supplied:** Librium® Capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.

*Levine, S.: "Angina Pectoris and Emotional Overlay," Scientific Exhibit presented at the Annual Meeting of the Maine Medical Association, Kennebunkport, Me., June 13-15, 1971.

**A copy of the Levine study may be obtained from your Roche representative.**

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*The Journal of The*
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**OCTOBER, 1972 — VOL. 68, NO. 10**

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

**Contributions of Original Articles**

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**Length**—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

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**Illustrations**—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

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*ations:* Stable adult diabetes tus; sulfonylurea failures, ary and secondary; adjunct to n therapy of unstable diabetes tus.

*raindications:* Diabetes mellitus can be regulated by diet alone; ile diabetes mellitus that is mplicated and well regulated on n; acute complications of tes mellitus (metabolic acidosis, , infection, gangrene); during mediately after surgery where n is indispensable; severe ic disease; renal disease with ia; cardiovascular collapse k); after disease states iated with hypoxemia.

*Warnings:* Use during pregnancy is to be avoided.
*Precautions:* 1. *Starvation Ketosis:* This must be differentiated from "insulin lack" ketosis and is characterized by ketonuria which, in spite of relatively normal blood and urine sugar, may result from excessive phenformin therapy, excessive insulin reduction, or insufficient carbohydrate intake. Adjust insulin dosage, lower phenformin dosage, or supply carbohydrates to alleviate this state. **Do not give insulin without first checking blood and urine sugar.**
2. *Lactic Acidosis:* This drug is not recommended in the presence of azotemia or in any clinical situation that predisposes to sustained hypotension that could lead to lactic acidosis. To differentiate lactic acidosis from ketoacidosis, periodic determinations of ketones in the blood and urine should be made in diabetics previously stabilized on phenformin, or phenformin and insulin, who have become unstable. If electrolyte imbalance is suspected, periodic determinations should also be made of electrolytes, pH, and the lactate-pyruvate ratio. The drug should be withdrawn and insulin, when required, and other corrective measures instituted immediately upon the appearance of any metabolic acidosis.
3. *Hypoglycemia:* Although hypoglycemic reactions are rare when phenformin is used alone, every precaution should be observed during the dosage adjustment period particularly when insulin or a sulfonylurea has been given in combination with phenformin.
*Adverse Reactions:* Principally gastrointestinal; unpleasant metallic taste, continuing to anorexia, nausea and, less frequently, vomiting and diarrhea. Reduce dosage at first sign of these symptoms. In case of vomiting, the drug should be immediately withdrawn. Although rare, urticaria has been reported, as have gastrointestinal symptoms such as anorexia, nausea and vomiting following excessive alcohol intake.
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'The Physician and Adolescent Crises'

**ERIC PFEIFFER, M.D.**, Associate Professor of Psychiatry, Duke University Medical Center.
'The Physician's Role in Helping his Patients Confront Old Age'

**GARFIELD TOURNEY, M.D.**, Co-Chairman and Professor, Department of Psychiatry, Wayne State University.
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**Contraindications:** Hypersensitivity to sulfonamic infants less than 2 months of age; pregnancy at te and during the nursing period.

**Warnings:** Safety in pregnancy not established not use for group A beta-hemolytic streptococca fections, as sequelae (rheumatic fever, glomerulo phritis) are not prevented. Deaths reported f hypersensitivity reactions, agranulocytosis, apla anemia and other blood dyscrasias. Sore throat, fe pallor, purpura or jaundice may be early indicat of serious blood disorders. CBC and urinalysis careful microscopic examination should be perfor frequently.

**Precautions:** Use cautiously in patients with impa renal or hepatic function, severe allergy or bronc asthma. Hemolysis, frequently dose related, may cur in glucose-6-phosphate dehydrogenase-defic patients. Maintain adequate fluid intake to pre. crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias:* Agranulo tosis, aplastic anemia, thrombocytopenia, leukope hemolytic anemia, purpura, hypoprothrombinemia methemoglobinemia; *Allergic reactions:* Erythe multiforme (Stevens-Johnson syndrome), general skin eruptions, epidermal necrolysis, urticaria, ser sickness, pruritus, exfoliative dermatitis, anaphy toid reactions, periorbital edema, conjunctival scleral injection, photosensitization, arthralgia and lergic myocarditis; *Gastrointestinal reactions:* Naus emesis, abdominal pains, hepatitis, diarrhea, a rexia, pancreatitis and stomatitis; *C.N.S. reactio* Headache, peripheral neuritis, mental depress convulsions, ataxia, hallucinations, tinnitus, ver and insomnia; *Miscellaneous reactions:* Drug fe chills and toxic nephrosis with oliguria and anu Periarteritis nodosa and L.E. phenomenon have curred. Due to certain chemical similarities with so goitrogens, diuretics (acetazolamide, thiazides) oral hypoglycemic agents, sulfonamides have cau rare instances of goiter production, diuresis and hy glycemia as well as thyroid malignancies in rats lowing long-term administration. Cross-sensiti with these agents may exist.

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**Capsules of 50 and 100 mg.**

*Indications:* Stable adult diabetes mellitus; sulfonylurea failures, primary and secondary; adjunct to insulin therapy of unstable diabetes mellitus.
*Contraindications:* Diabetes mellitus that can be regulated by diet alone; juvenile diabetes mellitus that is uncomplicated and well regulated on insulin; acute complications of diabetes mellitus (metabolic acidosis, coma, infection, gangrene); during or immediately after surgery where insulin is indispensable; severe hepatic disease; renal disease with uremia; cardiovascular collapse (shock); after disease states associated with hypoxemia
*Warnings:* Use during pregnancy is to be avoided.
*Precautions:* 1. *Starvation Ketosis:* This must be differentiated from "insulin lack" ketosis and is characterized by ketonuria which, in spite of relatively normal blood and urine sugar, may result from excessive phenformin therapy, excessive insulin reduction, or insufficient carbohydrate intake. Adjust insulin dosage, lower phenformin dosage, or supply carbohydrates to alleviate this state. **Do not give insulin without first checking blood and urine sugar.**
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phenformin HCl

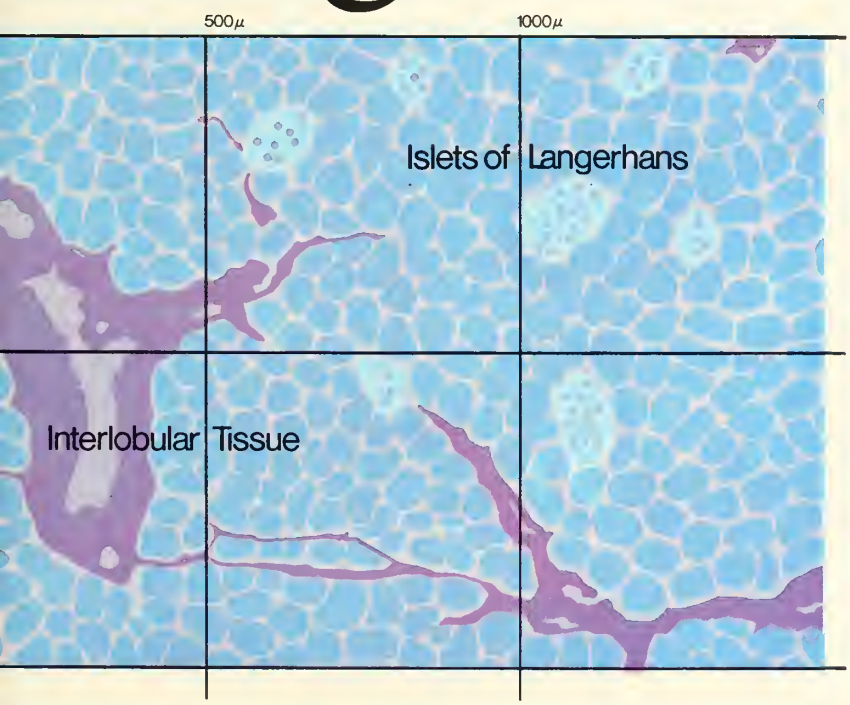
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suspected, periodic determinations
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nsulin, when required, and other
easures instituted immediately upon
the appearance of any metabolic acidosis.
3. *Hypoglycemia:* Although hypoglycemic reactions are rare when phenformin is used alone, every precaution should be observed during the dosage adjustment period particularly when insulin or a sulfonylurea has been given in combination with phenformin.
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*For complete details, including dosage, please see full prescribing information.*

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# f Langerhans?




Before using DBI-TD or any oral hypoglycemic, please read the prescribing information concerning dosage, warnings, contraindications, precautions and adverse reactions.



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# Wolf Laurel is a different kind of second home resort

# because of what it doesn't promise.

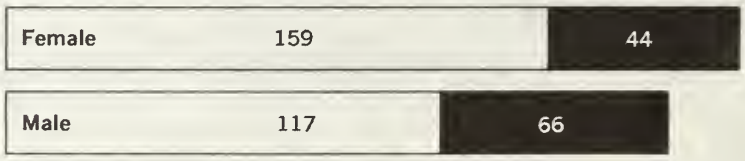
# What it means to live and work in Tipton County, Tennessee

## Persons who are white and over 40 have one chance in four of having solar keratoses... which may be premalignant

An epidemiologic study* conducted in Tipton County, Tennessee, revealed that 28.5% of white persons over 40 had solar keratoses; most had multiple lesions. Cluster sampling projected an estimated prevalence of 32.5% for white males and 19.5% for white females.

Though this is an unusually high percentage of affected persons, these lesions can occur in any white population, wherever people work or play out of doors.

**Prevalence of solar keratoses in white persons over 40 in Tipton County, Tennessee**




*Data on file, Hoffmann-La Roche Inc., Nutley, New Jersey.



## ar, actinic, senile keratoses

d by many names, the typical lesion is flat
ghtly elevated, brownish or reddish in
papular, dry, adherent, rough, sharply
d; usually multiple lesions, chiefly on
ed portions of the skin.

## uence/selectivity of response

ema in areas of lesions may begin after
l days of therapy; height of reaction
in affected areas)* usually occurs within
eeks, declining after discontinuation of
y. Since this response is so predictable,
s that do not respond should be biopsied
out the presence of a frank neoplasm.

## metic results

etic results are highly favorable. Inci-
of scarring is low—important with multi-
ial lesions. Efudex should be applied
are near the eyes, nose and mouth.

## cream–a Roche exclusive

Roche formulates the 5% cream...
patient acceptability...high in clinical
y, especially for lesions of hands and
ms...economical.

**Before prescribing, please consult complete product information, a summary of which follows:**
**Indications:** Multiple actinic or solar keratoses.
**Contraindications:** Patients with known hypersensitivity to any of its components.
**Warnings:** If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.
**Precautions:** If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.
**Adverse Reactions:** Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.
**Dosage and Administration:** Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.
**How Supplied:** Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.
Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

## an alternative to conventional therapy

# Efudex®
# (fluorouracil)
## cream/solution

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# Pinworm therapy is often a family affair



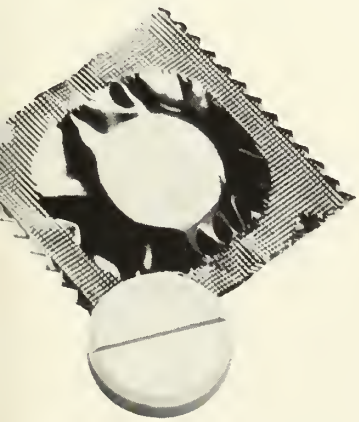


**Contraindications:** History of hypersensitivity to thiabendazole.
**Warnings:** If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.
**Precautions:** Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
**Adverse Reactions:** Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopen malodor of the urine, crystalluria, hematuria; appearance of li Ascaris in the mouth and nose. Hypersensitivity reactions

# A New Dosage Form:

# Chewable Tablets 500 mg Mintezol®

(THIABENDAZOLE | MSD)



o easy to take
veryone in the family
an keep to the
egimen you prescribe

lude: fever, facial flush, chills, conjunctival injection, gioedema, anaphylaxis, skin rashes, erythema multiforme cluding Stevens-Johnson syndrome), and lymphadenopathy.

**pplied:** Chewable tablets, containing 500 mg thiabendazole, boxes of 36, strip packaged, individually foil wrapped; spension, containing 500 mg thiabendazole per 5 cc, in ttles of 120 cc.

*r more detailed information, consult your MSD representa-e or see full prescribing information. Merck Sharp & hme, Division of Merck & Co., Inc., West Point, Pa. 19486*

MSD
MERCK SHARP & DOHME

addendum

## INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infections. Dosages are weight related. For your convenience, the information in the weight-dose chart below is included in the full prescribing information and in the 1973 edition of PDR.

*The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).*

MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.

The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

| WEIGHT (lb) | EACH DOSE (g) | TABLETS |
|---|---|---|
| 25 | 0.25 | ½ |
| 50 | 0.5 | 1 |
| 75 | 0.75 | 1½ |
| 100 | 1.0 | 2 |
| 125 | 1.25 | 2½ |
| 150 & over | 1.5 | 3 |

The regimen for each indication follows:

| INDICATION | REGIMEN | COMMENTS |
|---|---|---|
| Pinworm disease | Two doses per day for 1 day. Repeat in 7 days.<br><br>This regimen is designed to reduce the risk of reinfection. | If this is not practical, give 2 doses per day for 2 successive days. |
| Threadworm,* large roundworm,* hookworm,* and whipworm* disease | Two doses per day for 2 successive days. | A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected. |
| Creeping eruption | Two doses per day for 2 successive days. | If active lesions are still present 2 days after completion of therapy, a second course is recommended. |
| Symptoms of trichinosis* during the invasive phase of the disease | Two doses per day for 2 to 4 successive days according to the response of the patient. | The optimal dosage for the treatment of trichinosis has not been established. |

*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.


When irritable colon feels like this

# . . **KINESED**® provides more complete relief.

**Gastroenteritis, colitis, gastritis or duodenitis can produce spasm or hypermotility, gas distention and discomfort. But Kinesed can provide a balanced formulation to relieve these symptoms:**

- ☐ belladonna alkaloids—for the hyperactive bowel
- ☐ simethicone—for accompanying distention and pain due to gas
- ☐ phenobarbital—for associated anxiety and tension

**Contraindications:** Hypersensitivity to barbiturates or belladonna alkaloids, glaucoma, advanced renal or hepatic disease.
**Precautions:** Administer with caution to patients with incipient glaucoma, bladder neck obstruction or urinary bladder atony. Prolonged use of barbiturates may be habit-forming.
**Side effects:** Blurred vision, dry mouth, dysuria, and other atropine-like side effects may occur at high doses, but are only rarely noted at recommended dosages.
**Dosage:** *Adults:* One or two tablets three or four times daily. Dosage can be adjusted depending on diagnosis and severity of symptoms.

*Children 2 to 12 years:* One-half or one tablet three or four times daily. Tablets may be chewed or swallowed with liquids.

**STUART PHARMACEUTICALS** | Division of ICI America Inc. | Wilmington, Del. 19899

(from the Greek **kinetikos**,
to move,
and the Latin **sedatus**,
to calm)

# KINESED®

antispasmodic/sedative/antiflatulent

Each *chewable tablet* contains: 16 mg. phenobarbital (warning: may be habit-forming); 0.1 mg. hyoscyamine sulfate; 0.02 mg. atropine sulfate; 0.007 mg. scopolamine hydrobromide; 40 mg. simethicone.


Chuckwalla (*Sauromalus obesus*):
This southwestern desert lizard seeks
shelter in crevices of rocks.
When attempts are made to probe him
from his niche, he gulps air
until his abdomen is distended up to
sixty per cent over its normal size...
thus wedging himself tightly
in place and preventing capture.

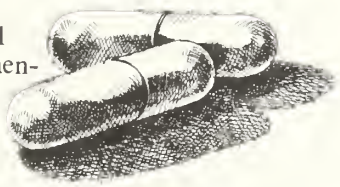
# Because you practice medicine in the Palmetto State...



# ou carry one of the heaviest atient loads in the country. ince this may include number of patients with astritis and duodenitis... ou should know ore about Librax®

## elps reduce xiety-related G.I. symptoms

patient may blame his attacks of gastritis or odenitis on "something he ate" but contributfactors may be his job, rital problems, financial rries or some other unmened source of stress and cessive anxiety that acerbated the condition. nether it is "something ate" or "something eating him," adjunctive rax can help. Librax offers both the antianxiety ion of Librium® (chlordiazepoxide HCl), that can p relieve excessive anxiety, and the dependable icholinergic action of Quarzan® (clidinium Br), t can help reduce gastrointestinal hypermotility l hypersecretion.



## Patient-oriented dosage — up to 8 capsules daily in divided doses

For optimal response, dosage can be adjusted to suit patient needs—1 or 2 capsules, 3 or 4 times a day.

# To help relieve anxiety-linked symptoms in gastritis and duodenitis

adjunctive

# Librax®

ROCHE

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

**ore prescribing, please consult complete product information, mmary of which follows:**

**traindications:** Patients with glaucoma; prostatic hyperphy and benign bladder neck obstruction; known hypersenvity to chlordiazepoxide hydrochloride and/or clidinium mide.

**rnings:** Caution patients about possible combined effects alcohol and other CNS depressants. As with all CNSng drugs, caution patients against hazardous occupations uiring complete mental alertness (*e.g.*, operating machinery, ing). Though physical and psychological dependence have ly been reported on recommended doses, use caution in inistering Librium (chlordiazepoxide hydrochloride) to wn addiction-prone individuals or those who might increase age; withdrawal symptoms (including convulsions), following ontinuation of the drug and similar to those seen with barrates, have been reported. Use of any drug in pregnancy, ation, or in women of childbearing age requires that its ntial benefits be weighed against its possible hazards. As all anticholinergic drugs, an inhibiting effect on lactation occur.

**autions:** In elderly and debilitated, limit dosage to smallest ctive amount to preclude development of ataxia, oversedaor confusion (not more than two capsules per day initially; ease gradually as needed and tolerated). Though generally ecommended, if combination therapy with other psychoics seems indicated, carefully consider individual pharmagic effects, particularly in use of potentiating drugs such as O inhibitors and phenothiazines. Observe usual precautions esence of impaired renal or hepatic function. Paradoxical tions (*e.g.*, excitement, stimulation and acute rage) have reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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*"The history of science, and in particular the history of medicine . . . is . . . the history of man's reactions to the truth, the history of the gradual revelation of truth, the history of the gradual liberation of our minds from darkness and prejudice."*

*– George Sarton, from "The History of Medicine Versus the History of Art"*

# Are combination drug products useful in treatment involving concomitant use of two or more drugs?

# Opinion

Results of a questionnaire to 7,000 physicians:

62.9%
Believe combination drug products are useful.

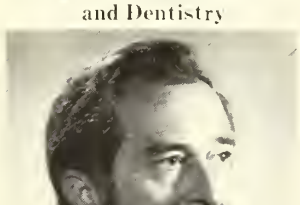
13.8%
Do not believe combination drug products are useful.

# Are combination drug produc useful in treatment involvir concomitant use of two or more drug

Opinion & Dialogue

## Doctor of Medicine

Louis Lasagna, M.D.
Professor and Chairman
Department of
Pharmacology & Toxicology
University of Rochester
School of Medicine
and Dentistry



Obviously, many drugs are given concomitantly. Whether it makes sense to combine medications in one preparation, be it capsule, tablet, or liquid, is a question that can be answered only by examining the advantages and disadvantages in the individual case.

Among the advantages is, first of all, convenience. The more medications that are taken concurrently and the more complicated the directions, the less likely the patient is to take medications accurately. From the standpoint of convenience and accuracy, and economy as well, you can make an important case for putting medications together in one preparation, as long as they are compatible.

By the same token, when you prescribe a properly tested and rational combination, you should have less worry about pharmaceutical or pharmacological compatibility – and about reasonable dosage ratios as well. Compatibility of the formulation should be demonstrated in the laboratory and clinic before the product is available for prescription—which is more than can usually be said for the physician's own spontaneous creations. And, the dosage ratios employed in rational precompounded combinations are designed to meet the needs of substantial numbers of "typical" patients.

There is no doubt that many "atypical" patients are to be found, and for them the prefabricated combination must be rejected. But that hardly argues for eliminating rational combinations from the market. Think, for example, of the problems that would arise if the components of widely accepted combinations, like the oral contraceptives and the diuretic-antihypertensives, always had to be prescribed, purchased and ingested separately.

One disadvantage that comes to mind is some doctors' unawareness of the ingredients a given combination contains. For example, a doctor might know that a patient is allergic to aspirin but forget that a certain analgesic mixture, which he knows only by its trade name, contains aspirin. His prescription, then, causes considerable discomfort, to say the least. This problem is a function of physician education, rather than of combination therapy as such. Improving doctors' knowledge about all medicaments they prescribe is a problem that deserves tackling on its own.

Another accusation leveled at combination drugs is that they encourage sloppiness of diagnosis and treatment. In many cases, however, a combination may prove to be the most effective choice. A good example of the usefulness of combinations appears in a recent article in the *Journal of Chronic Diseases* on the efficacy and side effects of an antihypertensive containing three ingredients, in which the track records of the combination drug and the individual ingredients were compared. Interestingly enough, whether the drugs were given individually or together, incidence and severity of side effects were the same. But blood pressure control was invariably better when the drugs were taken in one combination tablet than when they were taken separately (in "titratable" dosage) or in two or three different tablets.

Deciding which combinations constitute rational therapy obviously leads to a discussion of who is to determine which should be used and which should not. Realistically, I think combinations should be evaluated somewhat differently if they are old and established or new and untried.

In today's regulatory atmosphere, there is no possibility of a new combination being put on the market without a substantial amount of acceptable evidence in the form of controlled trials that show it to be safe and efficacious. On the other hand, I believe a different set of standards should apply to combination preparations that have been around for a long time. In other words, physician acceptance over a long period should be given some weight as evidence of the efficacy and safety of these drugs.

The FDA, however, does not seem to share this attitude. It often requires, for these older products, controlled trials that will monopolize the time of already overtired investigators and cost a great deal of money. I wish we could agree on a "grandfather clause" approach to prescriptions that have been used for a number of years and that have an apparently satisfactory track record.

For example, I think some of the antibiotic combinations that were taken off the market by the FDA performed quite well. I am thinking particularly of the penicillin - streptomycin combinations that patients—especially surgical patients—were given in injection. This made for less discomfort for the patient, less demand on nurses' time, and fewer opportunities for dosage errors. To take such a preparation off the market doesn't seem to be good medicine, unless actual usage showed a great deal of harm from the injection (rather than the proper use) of the combination.

The point that should be emphasized is that there are both rational and irrational combinations. The real question is, who should determine which is which? Obviously, the FDA must play a major role in making this determination. In fact, I don't think it can avoid taking the ultimate responsibility, but it should enlist the help of outside physicians and experts in assessing the evidence and in making the ultimate decision.

# Maker of Medicine

. Clarke Wescoe, M.D.
President
inthrop Laboratories



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combinations generally. Obviously, no one should be exposed willy-nilly to the potential side effects of two or three antibiotics when only one is needed. At the same time there are cases where it is prudent to prescribe more than one. The clinician is the judge in these circumstances, as he should be.

There is no clear definition of the word rational. Most persons, I suppose, would find it synonymous with reasonable, but in many circumstances it may best be defined as the opinion of those in power at the moment.

Other factors govern combination therapy, not the least of which has been its broad use by practicing physicians anxious to achieve convenience in prescribing, to reduce medication error, and to save money for their patients. Combinations clearly have met the test on all three counts.

I have been impressed by studies showing that the rate of error climbs markedly with the number of medications to be taken, even with sophisticated patients. When medically justified, therefore, this factor alone supports the logic of combination therapy.

The cost argument for combinations appears to be irrefutable. In 1971, R. A. Gosselin studied the 71 combination products (excluding oral contraceptives) among the 200 most prescribed drugs. The study found that if all 71 products were discontinued, and if each ingredient in these combinations were prescribed separately, the price of medicines to patients would jump by $443.2 million on a national basis! At a time when the cost of medical care is under so much fire, it would be nonsensical to boost costs without clearly irrefutable medical reasons.

The part played by government on this question, of course, is fundamental. The FDA should play a role in determining which combinations are reasonable. That role, as defined by law and regulation, is to ensure that any medication on the market is safe and effective in line with its label claims. Certainly combinations are entitled to as much consideration as single entities—neither more nor less. So long as the addition of one drug to another does not make either less safe, or less effective, so long as they are compatible in a formulation, we have a reasonable product. It makes no sense to recommend the use of two products for certain conditions and to deny their being combined in a single form. An unhappy side effect of the problem concerns the efficacy panel discussions of many products submitted for review. The term "effective, but" has been freely interpreted to mean "ineffective" in toto, regardless of the merit of the individual drugs. This interpretation has placed numerous useful combination products in needless jeopardy.

In reading the actual reports of the review panels, it seems clear that some of the ratings were based less on scientific research and clinical observation than on the "informed" opinions of the panelists. These "informed" opinions were accepted at face value, while the "informed" opinions of others who had used the products were rejected. All of this put combination products into a sort of scientific never-never land.

It should be kept in mind by all, government as well as others involved in our health care system, that advances in therapy are seldom made in leaps and bounds but rather by small painstaking steps—and that some of these steps have resulted from research in combination drugs as well as with single entities. Given the near-infinite biologic variation in patient response, this is hardly surprising to clinicians. It should not be to regulatory agencies either.

In the end, the practicing physician is in the best position to decide if a particular combination makes sense. Such a decision should not be made exclusively by those whose responsibility for continuing clinical care is limited. Clinicians are the best judges of efficacy because the ultimate proof of any product's effectiveness is acceptance by physicians who have observed its actions in patients over time. The corollary statement may be made about over-the-counter medicines, which would not long survive if they failed to afford the relief the user anticipates. That the antihistamine in a "cold" remedy may not *always* be necessary is no reason to proscribe the combination generally.

## Opinion & Dialogue

**What is your opinion, doctor?**
**We would welcome your comments.**

*The Pharmaceutical Manufacturers Association*
*1155 Fifteenth Street, N.W., Washington, D.C. 20005*




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The Journal
of the
South Carolina Medical Association

VOLUME 68 NOVEMBER, 1972 NUMBER 11

# SOME THOUGHTS ON DARWIN AND EVOLUTION

C. WARREN IRVIN, JR., M. D.
Columbia, S. C.

"One hundred years ago Charles Darwin, in what was undoubtedly the greatest scientific book of all time, presented the evidence that he had gathered and developed during the previous twenty years for the theory of evolution by natural selection. His treatment was so unprecendented, so comprehensive, and so masterly as first to stagger and then to convince all whose minds were mobile enough to follow his arguments adequately. Since that time, the whole matter has been subjected to the most copious and exacting criticism, and to ever more searching exploration and testing. The result has been that this revolutionary view of life now stands as one of the most firmly established generalizations of science and that far more is now understood about the manner by which evolution operates than was even imagined a century ago."[1]

This paragraph by one of the world's greatest geneticists and Nobel prize winner, Dr. Hermann J. Muller, probably summarizes best the feeling of many about Darwin's importance to the intellectual development of man. In the present era of "nature and nurture" some might say Freud, Jung and even more recently the Behavorist movement established by B. F. Skinner have changed the thinking of man as much as Darwin. Marx and later Lenin in the 20th century certainly changed the world, but Lenin particularly was an implementer and not an original thinker. Science has made great strides since the time of Darwin with advances in chemistry, biology, radiology, astronomy, culminating in the division of the atom. But the real changes of man's thinking were prior to Darwin, namely Newton, Kepler, Galileo and others. Darwin himself was the last in this line of greats. I can think of no other man since him who has changed western culture as much.

Darwin himself was brought up in a well-to-do English family made up of two secure clans, the Darwins and the Wedgewoods, who let him have a very happy childhood, actually one in which he studied relatively little, was carefree and responded very much to nature. Being the son and the grandson of physicians he was exposed from the time of his birth in 1809 to the culture that medicine was in that era. He tried medicine briefly but later turned to the ministry, taking his B.A. at Cambridge in 1831. His interest in nature, however, had been a lifelong one and a fortunate accident enabled him to accept the invitation on the H.M.S. Beagle to be the naturalist. This 5-year experience was the greatest in Darwin's life, I am sure, and certainly something for which we all can be thankful. It was here he began

collecting specimens and information which subsequently came to fruition in his *On the Origin of the Species* published over 20 years later in 1859. As the world knows, he would not have published it then had not that young naturalist, Alfred Russell Wallace arrived at the same conclusion after only a short period of study. I can imagine the consternation when Wallace's letter to Darwin came. Twenty years of work, still incomplete in his doubting mind, and here someone comes to the same conclusion, independently, with only a brief period of study! It was only with the insistence of his loyal friends that he was persuaded to simultaneously present his theory to the Linnean Society in 1858. In one more year he compiled his studies and published the first edition *On the Origin of the Species.* In all, as we will note again, in his lifetime he produced six editions, all considerably changed; the fifth in 1868 being notable for here for the first time he used the phrase "survival of the fittest" and dropped the "on" from the title.

In 1871 he published *The Descent of Man.* Why he finally decided to do this is best expressed by his own words in the introduction:

> "It is manifest that at least a large number of naturalists must admit that species are the modified descendants of other species; and this especially holds good with the younger and rising naturalists. The greater number accept the agency of natural selection; though some urge, whether with justice the future must decide, that I have greatly overrated its importance. Of the older and honoured chiefs in natural science, many unfortunately are still opposed to evolution in every form.
>
> "The sole object of this work is to consider, firstly, whether man, like every other species, is descended from some pre-existing form; secondly, the manner of his development; and thirdly, the value of the differences between the so-called races of man."[2]

His continued humility and honesty are portrayed by another excerpt from the same introduction.

> "This work contains hardly any original facts in regard to man; but as the conclusions at which I arrived, after drawing up a rough draft, appeared to me interesting, I thought that they might interest others. It has often and confidently been asserted, that man's origin can never be known: but ignorance more frequently begets confidence than does knowledge; it is those who know little, and not those who know much, who so positively assert that this or that problem will never be solved by science. The conclusion that man is the co-descendant with other species of some ancient, lower, and extinct form, is not in any degree new. Lamarck long ago came to this conclusion, which has lately been maintained by several eminent naturalists and philosophers."[3]

A kindly man, one who felt deeply some of the scurrilous attacks made upon him yet rarely responding in kind, he did develop an agnostic outlook toward life which caused him some worry about the women in his family. He did not enter into the religious aspects of the controversy but confined his concern with attempting to persuade the scientist; thus, the church apparently forgave him. In 1882 he was buried in Westminster Abbey near the grave of Sir Isaac Newton.

What was science like before Darwin? Newton, Galileo and others have deviated the stargazers to a "universe centered" from "earth centered" culture. This break with tradition was no easy task and even today makes for exciting reading.[4]

T. S. Kuhn, in his famous *The Structure of Scientific Revolution* also gives interesting accounts of this period of scientific thinking.[5] Thus we can see that even though the scientific cultures of inanimate objects were beginning to change, very little impact had been made on the biological animate objects of the world. Newton's physics and Galileo's mechanics did not alter the scientist's thinking originally outlined by Aristotle some 2000 years ago on the immutability of the species. Not all of the Greek philosophers agreed with Aristotle, just as not all agreed in the study

of the stars. Some were not convinced of the immutability of the species, and Anaximander came the closest to modern thought believing that man arose from a fish-like ancestor. Religion had been somewhat shaken by physics and geology, as we all know, by the martyrdom of Bruno and Galileo but still felt secure in the ideas of creation as outlined by the *Bible*. St. Augustine was an exception to this, interpreted the *Bible* as being symbolic in nature, did believe in evolution, but in this he was ignored. To be sure, and before Darwin himself finally published his works, there were many others, including one of Darwin's ancestors, Erasmus Darwin, who arrived at somewhat similar conclusions. Lamarek, the greatest of the forerunners of Darwin, and one who still has adherents, was the great French biologist who believed among other things in the inheritance of aequired characteristics. Interestingly enough, Darwin not only accepted some of Lamarck's eonclusions, including the one mentioned above which he was never able to completely exelude from his own thinking, but he also always gave full eredit to his predecessors.

The great book itself, as has already been noted, was entitled *On the Origin of the Species* and went through six editions during Darwin's lifetime. He made numerous ehanges in these, and it is reported that there are 7,500 variants of all kinds between the first and sixth edition and that the sixth is one-third as long again as the first. What Darwin said and what Darwin is supposed to have said are two entirely different things. For example, it was not until the fifth edition that Darwin included the words "Survival of the fittest", these words having been eoined by the Amerieian, Herbert Spencer, rather than by Darwin himself. The powerful thing about his book was that he drew no moral eonelusions from it, nor did he attempt to inject ethies into it or religion of any sort. It is one of the few books in whieh the objections are earefully raised by the author and answered if possible, and if not possible, catalogued. The book suceeeds by the weight of evidence gathered by him over a number of years rather than by its theory.

After the book was published, he did not take any sides in the non-scientfic controversy that arose. The chureh, as would be expeeted, beeame increasingly vitriolic about his statement. Coming almost immediately to his defense was T. H. Huxley, and I suppose one could liken him to Boswell in that he seemed to spend a great deal of the rest of his life enlarging on, defending, encouraging and aiding Darwin. Huxley was a powerful person and masterful writer, the head of a long clan of interesting people. He said, for example,

> "The question of questions for mankind—the problem which underlies all others, and is more deeply interesting than any other—is the ascertainment of the place which Man occupies in nature and of his relations to the universe of things. Whence our race has come; what are the limits of our power over nature, and of nature's power over us; to what goal we are tending; are the problems which present themselves anew and with undiminished interest to every man born into the world."[6]

Not only did he defend Darwin with the seientists but he took great delight in defending him in the religious eireles as well. Several generations of Huxleys have descended and enjoyed Darwin. Sir Julian, being a grandson of Thomas Henry Huxley, wrote extensively on evolution and gives one of the most lucid deseription of Darwinism that one can find. But this is in the twentieth century. The Scientific resistanee to Darwin gradually disappeared and others, including Darwin's great reluetant friend, Sir Charles Lyell, in spite of great pressure from the ehureh, finally aceepted Darwin's theory. In Ameriea Agassiz is one of the few who up to his death still resisted Darwinism. But even he, toward the end of his life, muted his objections and began to aecept the opposite theory. Darwinism affected science in that it got away from the fixation of nature to one of a changing world. This radical change from the assumption of the fixed and final to one of flux and continued development is so much a part of our life today, that it is difficult to understand how mueh a "seientific revolution" this was.

Darwinism affected philosophy as well. John Dewey felt the great imprint that Darwinism made on man's thinking. He said,

> "Old ideas give way slowly; for they are more than abstract logical forms and categories. They are habits, predispositions, deeply engrained attitudes of aversion and preference. Moreover, the conviction persists—though history shows it to be a hallucination—that all the questions that the human mind has asked are questions that can be answered in terms of the alternatives that the questions themselves present. But in fact intellectual progress usually occurs through sheer abandonment of questions together with both of the alternatives they assume —an abandonment that results from their decreasing vitality and a change of urgent interest. We do not solve them: we get over them. Old questions are solved by disappearing evaporating, while new questions corresponding to the changed attitude of endeavor and preference take their place. Doubtless the greatest dissolvent in contemporary thought of old questions, the greatest precipitant of new methods, new intentions, new problems is the one effected by the scientific revolution that found its climax in the *Origin of Species.*"[7]

Our old friend, Thomas Henry Huxley, was involved, as we have previously noted, not only in science but in ethics. Much criticism had been directed to Darwin because of the statement of the "survival of the fittest." He pointed out, and continued to point out, that this is not an ethical statement but even though one used "fittest" as a synonym for best, that in cosmic nature the fittest depended upon condition and had no moral or ethical meaning. What one was good for in one place at one time might be weaker at another. The theologians became more enraged with Darwin than anyone else. The bishop of Oxford, Wilberforce, was violent in his denunciation of those things he purported Darwin to have thought or to have said. Most of this centered around taking God out of creation and even the modern phrase, "God is dead", was used on many occasions. One can easily see how Darwin's ideas could be interpreted in this light and it is interesting on one occasion after Wilberforce had made a particularly vitriolic denunciation of the absent and ill Darwin his alter ego, T. H. Huxley replied as follows, "If I had to choose, I would prefer to be a descendant of a humble monkey rather than of a man who employs his knowledge and eloquence in misrepresenting those who are wearing out their lives in search for truth." The protestants were not alone in denunciating Darwin and the Pope was extremely pleased when Dr. Constantine James published a book on *Darwinism or the Man* in which he "refuted" Darwin scientifically and attempted to ridicule the entire thirty-year work. Many sincere theologians, however, observing the slow but finally definite change of such deep feeling Christians as Sir Charles Lyell, the most eminent geologist of the day, began to temper their objections. And as Dewey implied, the questions seemed to get asked less frequently. Thomas Henry Huxley finally summarized it all in his most famous phrase when he said,

> "Everybody has read Mr. Darwin's book, or at least has given an opinion upon its merits or demerits, pietists, whether lay or ecclesiastic, decry it with a mild railing which sounds so charitable. Bigots denounce it with an ignorant invective. Old ladies of both sexes consider it a decidedly dangerous book, and even savants, who have no better mud to throw, quote antiquated writers to show that its author is no better than an ape himself; while every philosophical thinker hails it as a veritable Whitworth gun in the armory of liberalism; and all competent naturalists and physiologists, whatever their opinions as to the ultimate fate of the doctrines put forth, acknowedge that the work in which they are embodied is a solid contribution to knowledge and inaugurates a new epoch in natural history."[8]

One would have thought that this subject was not so important that men would be dismissed from lifelong positions because of con-

flicts in beliefs, yet here in Columbia, South Carolina, James Woodrow, uncle of Woodrow Wilson, who at the time was Perkins Professor of Natural Science in connection with revelation in the Presbyterian Theological Seminary was dismissed from his position because he interpreted the *Bible* as not teaching science and thought that evolution could be possible. We will hear more of the Rev. Woodrow later.

Darwin's effect on society was far reaching. Herbert Spencer who coined the phrase "Survival of the fittest," influenced American life more than one could possibly realize. Spencer applied evolution to society and believed in man's being able to ignore the state: he felt it was wrong, for example, that the state aided the poor. They were unfit, and thus should be eliminated from society. If they were strong enough to live and compete, they did live and compete. Otherwise they should die. Much of this entire attitude was indoctrinated throughout the entire social life of the Western World and in particular America. Business was justified in its ruthlessness because the fittest were able to survive and to produce what they thought was best. Individualism was what he preached. "You can't make the world all planned and soft. The strongest and best survive. That is the law of nature after all. Always has, and always will be."[9]

Andrew Carnegie wrote an article in 1900 called the *Gospel of Wealth*. In it, along the same lines, he justifies the accumulation of capital and the concentration of wealth in the hands of the few with the same thoughts. It is an interesting article, one in which he says lots of things, including advice on how to raise children, even though he didn't have any. We can always say from reading it that his entire philosophy was based on this attitude that a strong man was justified in almost any means in obtaining wealth because of the "survival of the fittest."

On the other side of the coin, there appeared in 1902 an article on *Mutual Aid*. This article contradicted Darwinism and told of the lack of "that bitter struggle for means of existence among animals belonging to the same species which was considered by most Darwinists (although not always by Darwin himself) as a prominent characteristic of the struggle for life, and the main factor for evolution."[10]

The author was most interested in observing animals, just as Darwin had been, and saw that many of them survived not through the ruthless climb over and rejection of others, but through their mutual aid, one with another. He could not accept, therefore, the law of every man against every other man as being the law of nature and wrote extensively on it. He recognized "Rousseau had committed the error of excluding the beak-and-claw fight from his thoughts; and Huxley committed the opposite error; but neither Rousseau's optimism nor Huxley's pessimism can be accepted as an impartial interpretation of nature."[11]

This interesting man was Prince Peter Kropotkin and one might be surprised to know that he is the father of anarchism and well recognized for this leadership throughout the world. Other Russians have contradicted Darwinism, the most recent one being Lysenko, with somewhat less successful results. Lysenkoism, having been accepted by Stalin as a rejection of the Mendelian laws and other genetical facts, cost the Russian people many lives and much time in the development of their agrarian system over the years. Although it has finally been repudiated, even now it is a difficult subject to discuss in scientific circles in Russia.

The last rearguard action against Darwinism occurred in Tennessee in 1925. The Scopes' trial at which those two giants, Clarence Darrow and William Jennings Bryan pitted themselves against each other, makes for a most fascinating reading. Although Bryan won the case, he lost not only the war but lost his life. Three days after the trial he died from what I believe was probably a myocardial infarction and I also expect was at least partially brought on by the stresses of Mr. Darrow's piercing questions.

What is the present status of Darwinism? Having the benefit of over 100 years of scientific endeavor it still stands in its basic principles. Darwin, of course, did not know of Mendel, DNA, RNA, chromosomes, genes, or even mutants, and it was not until 1901 that

DeVries brought this possibility to the forefront. He was not supported by Olduvai Gorge and Dr. Leakey's findings. Now modern methods of dating organic matter such as radiocarbon have confirmed (as well as unconfirmed the Piltdown man) the antiquity of man's direct ancestors. Present theory dates the origin of life to 3.8 billion years; fossils date back to 3.1 and 2.7 billion years ago these having been discovered in South America. In the Cambrian period which was 600 million years ago all major groups of life known today except for vertebrates have been found. The oldest vertebrates, that is, jawless fishes, have been dated to the Ordovian period now some 450 million years ago. Land life appeared some 400 million years ago, reptiles 300 million and mammals 60 million years ago respectively. The first direct ancestor of man has been found some 10-15 million years ago in what is called the Miocene period. Stone age tool makers of Olduvai Gorge are now dated to 2 million years ago and for an interesting account of these people and the nature of man's aggressiveness, Robert Ardrey's *African Genesis* is most worthwhile reading.[17]

Our own species are now dated by Dr. Theodosius Dobzhansky as follows: Homosapiens presapiens 250 thousand years ago; homosapiens neanderthalensis 120 thousand years ago, homosapiens sapiens 20 thousand years ago.[18] Dr. Dobzhansky is ont of the leading authorities on evolution and very recently has written a fascinating article on "Darwin, Evolution and the Problem of Extraterrestrial Life."[14]

One would think with all the evidence now available that evolution among scientists would be universally accepted. It apparently is almost universally accepted in part, but even today some question the entire theory. Neo-Larmarkism, or the inheritance of acquired characteristics was all but abandoned after modern genetics appeared. Yet, only this year, one of the most fascinating accounts of the last Lamarkian—the tragic Dr. Paul Kammerer—has appeared. Arthur Koestler's *The Case of the Mid-Wife Toad*[15] is both convincing and delightful reading.

Finally, what is the present effect of Darwin on religion and ethics? I was pleased to read the great modern British scientist, P. B. Medawar's review of Pere Teilhard's *The Phenomenon of Man.* It was because he was able to say,

> "Some reviewers hereabouts have called it the Book of the Year—one, the Book of the Century. Yet the greater part of it, I shall show, is nonsense, tricked out by a variety of tedious metaphysical conceits, and its author can be excused of dishonsety only on the grounds that before deceiving others he has taken great pains to deceive himself. *The Phenomenon of Man* cannot be read without feeling of suffocation, a gasping and flailing for sense. There is an argument in it, to be sure—a feeble, abominably expressed—and this I shall expound in due course.[16]

It is always good to find that smarter people than you were also mystified by obscurantist mysticism as labeled as evolutionary theology. The Catholic church was apparently mystified during his lifetime as well.

The various thinkings of the present religions and their changes in concept are of some interest to us. At the present time, the Catholic church has taken what seems to be a sensible attitude toward the subject.

> "The teaching of the Church leaves the doctrine of evolution an open question, as long as it confines its speculation to the development, from other living matter already in existence, of the human body. That souls are immediately created by God is a view which the Catholic faith imposes on us. In the present state of scientific and theological opinion, this question may be legitimately canvassed by research, and by discussion between experts on both sides. At the same time, the reasons for and against either view must be weighed and adjudged with all seriousness, fairness, and restraint; and there must be a readiness on all sides to accept the arbitrament of the Church, as being entrusted by Christ with the right to interpret the Scriptures, and the duty of safeguarding the doctrines of the faith. There are some who take rash advantage

> of this liberty of debate, by treating the subject as if the whole matter were closed — as if the discoveries hitherto made, and the arguments based on them, were sufficiently certain to prove, beyond doubt, the development of the human body from other liver matter already in existence. They forget, too, that there are certain references to the subject in the sources of divine revelation, which call for the greatest caution and prudence in discussing it."[17]

An interpretation by a local priest is "Liberty for discussing the evolution of the human body is granted, but one should not presume that evolution is completely certain or proved."

In the protestant church there is—as always—a greater division of thought. Some of the more fundamentalist groups reject Darwinism in toto. My secretary, who is a member of that sincere group, "Jehovah's Witnesses," was kind enough to give me a small book on the subject. It is well done, and attacks evolution both from the theory, but also from the belief that the Bible teaches "Man has been on earth only about 6,000 years."[18] This becomes, therefore, a matter of belief as well as a matter of opinion, but appears to be at variance with the observed present scientific facts.

Rev. James Woodrow seems to have left Columbia and proceeded to Georgia, where in 1888 he convinced the presbytery of Augusta of his beliefs but this was overthrown by the Synod of Georgia. Other Synods also declared against evolution and this action was confirmed and reconfirmed by the General Assemblies of the Presbyterian Church of 1886, 1888, 1889 and 1924. In 1967 the General Assembly requested further study and finally in 1970 the assembly of that year altered its position to accept evolution and in part stated "The truth or falsity of the theory of evolution is not the question at issue and certainly not a question which lies within the competence of the Permanent Theological Committee. The real and only issue is whether there exists clear incompatibility between evolution and the Biblical doctrine of Creation. Unless it is clearly necessary to uphold a basic Biblical doctrine, the Church is not called upon and should carefully refrain from either affirming or denying the theory of evolution. We conclude that the true relation between the evolutionary theory and the Bible is that of non-contradiction and that the position stated by the General Assemblies of 1886, 1888, 1889 and 1924 was in error and no longer represents the mind of our Church. We re-affirm our belief in the uniqueness of man as a creature whom God has made in His own image."[19]

In conclusion, one might say that just as Darwin believed over 100 years ago, the weight of evidence all points to evolution as the only reasonable explantaion for the variation of the species found throughout the world and the accumulated evidence so far all confirms his original findings. Yet it remains a theory and who knows in the era of acupuncture what may happen. The next scientific revolution may be in the field of evolution.

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**Long-Term Results With Aorta-to-Coronary Artery Bypass Vein Grafts**

M. ADAM et al (3434 Swiss Ave, Dallas 75204) Ann Thorac Surg 14:1-9 (July) 1972

More than 500 patients were treated with aorta-to-coronary artery bypass vein grafts. Follow-up of the first 350 patients showed that the group had 82% good results, 4% failures, 10% operative deaths, 3% late deaths, and 1% late deaths not related to the graft. The number of late deaths has not increased with the passage of time although a distinct, moderate degradation in the quality of results in the living patients is seen.

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**Local Wound Environment and Epidermal Healing**

D. T. ROVEE et al (Johnson and Johnson Research, New Brunswick, NJ 08903) Arch Dermatol 106:330-334 (Sept) 1972

Sites on the dorsal skin of six human volunteers were tape-stripped to remove the stratum corneum. This series of wounds was left either air-exposed, or covered by an occlusive film. The magnitude and duration of mitotic response were significantly greater in the air-exposed than occluded wounds. The wounded epidermis returned to the basline levels of cell division at seven to ten days with occlusion and at 12 to 14 days with air exposure.

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**Direct Measurement of Total Metabolism of Burned Patient**

G. B. BRADHAM (80 Barre St., Charleston, SC 29401) Arch Surg 105:410-413 (Sept) 1972

The calorimeter and its use in assessing a typical burned patient shows that energy losses from a burned patient are beyond the usual means of energy, water vaporizational energy losses from granulation tissue may be an effect of metabolism rather than a cause of excessive energy loss, and pig-skin heterografts are an effective means of diminishing energy requirements of burned patients.

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**Intravenous Hyperalimentation: Review of 2½ Years' Experience**

C.M. VOGEL et al (216 S Kingshighway, St. Louis 63110) Arch Surg 105:414-419 (Sept) 1972

Seventy-one patients varying in age from 11 to 92 years received intravenous hyperalimentation. Of the 22 patients who died, no deaths were directly attributed to this procedure. With such treatment most patients experienced gain in strength and weight, loss of excess body water, improvement in wound healing, and an improved sense of well-being.

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**Improved Sump Drain-Irrigation Device of Simple Construction**

D. E. TRIBBLE (1400 Barnwell St. Columbia, SC 29201) Arch Surg 105:511-513 (Sept) 1972

A new sump drain-irrigation device is described. The drain owes its effectiveness to the physical properties of a synthetic plastic mesh (nylon net). This is rolled cylindrically and ensheathed by a penrose drain in such a way as to allow continuous suction through a centrally placed tube. At the same time a wide air inlet is provided through the net which can be intermittently cleared of debris by drip of an antibiotic solution. The drain is recommended for use in deeply placed abscesses.

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**Intravenous Urea in Treatment of Bone Pain Crises of Sickle Cell Disease**

E. OPIO and P. M. BARNES (Hosp for Sick Children, London) Lancet 2:160-161 (July 22) 1972

In a double-blind trial of 23 episodes of bone pain in 19 young East African patients with sickle cell disease, a 16% solution of intravenous urea in 10% invert sugar was found to be no more successful than 10% invert sugar alone in the relief of symptoms. No side effects attributable to urea were observed.

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**Some Psychologic Vulnerabilities of Physicians**

G.E.VAILLANT et al (Cambridge Hosp, Cambridge, Mass 02138) New Eng J Med 287:372-375 (Aug 24) 1972

Childhood in 47 physicians was compared with that in 79 socioeconomically matched controls. Physicians, especially those involved in direct patient care, were more likely than controls to have relatively poor marriages, to use drugs and alcohol heavily, and to obtain psychotherapy. Although these difficulties are often assumed to be occupational hazards of medicine, their presence or absence appeared strongly associated with the life adjustment of these men prior to medical school. Only physicians with the least stable childhood and adolescent adjustments appeared vulnerable to these occupational hazards.

# THE DIAGNOSIS AND TREATMENT OF ORGANOPHOSPHATE INSECTICIDE POISONING

S. H. SANDIFER, M. D.*
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RICHARD H. GADSDEN, Ph. D.**

## INTRODUCTION

A survey of South Carolina physicians indicated that about 600 cases of pesticide poisoning occur each year in the state. While the toxic agents were not identified, it is reasonable to assume that most of the poisonings were due to organophosphates with parathion being the most likely offender. With a ban of DDT imminent, an increase in the number of poisonings due to the organophosphates may be anticipated. Prompt diagnosis and treatment is essential to prevent death. If treatment is successful complete recovery can be anticipated.

## DIAGNOSIS

### A. History

Frequently the history of exposure to pesticides either through the skin or ingestion is obtained. Although parathion is the most commonly used organophosphate, others in wide use are shown in Table 1.

### B. Symptoms and Signs

Organophosphates exert their effect primarily by inhibiting the enzyme cholinesterase. This results in the accumulation of acetylcholine which causes symptoms of excessive stimulation of the parasympathetic nervous system, central nervous system effects and effects on the myoneural junction. The symptoms listed in Table 2 have all been observed, but all may not be present. The route of exposure does not necessarily correlate with symptoms observed. Pupillary constriction is a most valuable sign but is not always present. Parathion is converted to paroxon, which is the active form of the pesticide, in the human body. This may result in delayed onset of symptoms (up to 8 hours after exposure), especially after dermal exposure.

### C. Laboratory Studies

Treatment should not be delayed for laboratory confirmation, but blood should be drawn in an EDTA tube for red blood cell and plasma ChE determination. The stomach contents should be saved for subsequent analysis if the material has been swallowed.

Depression of red cell ChE to values of 25 percent of normal plus a reliable exposure history make the diagnosis certain.

Urine may be analyzed for PNP (para nitro phenol), a metabolite of parathion. Parathion is rarely recovered from the blood but can be identified in autopsy specimens.

### D. Treatment

If there has been dermal exposure the clothing should be removed and the patient washed as soon as possible. If the toxic material has been ingested, the stomach should be emptied, preferably by emesis, or, if not possible, by gastric lavage. Ventilation of the patient should be carried out. If possible, cyanosis should have disappeared before the beginning of drug treatment to avoid ventricular fibril-

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Table 1

**Commonly Used Organophosphorous Pesticides**

| | | |
|---|---|---|
| Azodrin® | DiSyston® | Phorate (Thimet®) |
| Dasinit® | Guthion® (Azinphosmethyl) | Phosdrin® |
| DDVP (Vapona®) | Malathion | Phosphamidon (Dimecron®) |
| Diazinon (Spectrocide®) | Methyl Parathion | Ronnel (Korlan®) |
| Dibrom® (Naled) | Mocap® | Systox® (Demeton) |
| Dimethoate (Cygon®) | Parathion | |

lation; but if this is not possible, proceed with drug treatment. There are two drugs that may be lifesaving; atropine sulfate in large dosage and PAM (pralidoxime chloride). Of the two, atropine is usually readily available. The problem is to convince the physician to give large enough doses of atropine. For severe cases atropine sulfate should be given in dosage of 2 - 4 mg (1/32 to 1/16 grain) intravenously every 5 - 10 minutes until full atropinization occurs as indicated by dilated pupils, dry flushed skin, and a rising pulse rate. For children a dosage of 0.05 mg/kg should be given every 5 - 10 minutes. The dosage of atropine may appear large, but patients poisoned with a ChE inhibitor can tolerate these very large doses. The most common error is to give insufficient atropine. Full atropinization should be maintained for at least 24 hours in milder cases of poisoning and at least 48 hours in severe cases. A recent case of a 15 months old child in MUSC Hospital required 52 mg atropine over a five day period. In adults more than 50 mg has been given in a 24 hour period. While atropine blocks the effect of the physiologic response to parasympathetic stimulation, it does nothing to restore the ChE values to normal. Frequently, the binding of ChE can be at least partially released by the administration of a specific antidote Pralidoxime Chloride, usually referred to as Protopam or 2-PAM. The dosage for adults is 1 gm given slowly, intravenously, and

Table 2

**Symptoms and Signs**

| Mild to Moderate | Severe |
|---|---|
| Anorexia | Mental confusion |
| Nausea | Pulmonary edema |
| Vomiting | Muscular twitching |
| Abdominal cramps | Convlusions |
| Diarrhea | Coma |
| Weakness | |
| Excessive sweating | |
| Excessive salivation and tearing | |
| Headache | |
| Pupillary constriction | |

repeated in one hour if necessary. The dosage for children is 10 - 50 mg/kg. Little benefit can be obtained from further doses after the second dose. The blood cholinesterase values may rise slightly after the administration of PAM, but not to normal values. Return to normal values may require several weeks. If convlusions interfere with respiration, administer sodium thiopental (2.5 percent) solution intravenously with more than the usual care; poisoning by anticholinesterases sensitizes the medullary centers to depression by barbiturates.

**Prognosis**

When treatment is instituted promptly, complete recovery can be anticipated unless there has been damage due to hypoxia.

## SUMMARY

Organophosphate poisoning is a not uncommon occurrence in South Carolina. The diagnosis can usually be made on the basis of history and physical examination. Laboratory studies aid in confirmation. Prompt treatment with massive doses of atropine sulfate and Protopam may be lifesaving. Complete recovery can be anticipated.

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**Primary Fibrositis and Its Treatment**

H. F. KLINEFELTER (550 N Broadway, Baltimore 21205) Johns Hopkins Med J 130:300-307 (May) 1972

Symptoms of primary fibrositis have been greatly benefited in 85% of patients treated with phenylbutazone or oxyphenbutazone. Long-term management with these drugs has proved safe and effective.

**Heart Attacks: Possible Risk Factor**

L. H. PAGE (8907 Carnegie Ave, Cleveland 44106) Proc Nat Acad Sci USA 69:1813-1815 (July) 1972

Myocardial infarction and death result from narrowing of coronary arteries—a process that may result from various causes. Angiotensin and hypertension are suggested as among the chief components of such processes.

**Experience With 63 Patients With Fat Embolism**

J. A. PAZELL and L. F. PELTIER (Univ of Kansas Medical Center, Kansas City) Surg Gynecol Obstet 135:77-80 (July) 1972

In 63 patients with fat embolism the severity of their illness was directly related to the degree and duration of shock and hypovolemia. Of the nine patients who died, only one patient was considered to have a normal blood volume. Fluid replacement must be sufficient to restore normal blood value and to prevent shock. Effective respiratory support is essential. Increasing experience with intubation has reduced the number of tracheostomies. Corticosteroids should be given if the $Po_2$ cannot be maintained above 60 mm of Hg in spite of efficient respiratory support.

# CLINICOPATHOLOGICAL CONFERENCE OF THE MEDICAL UNIVERSITY OF SOUTH CAROLINA

## "Progressive Hypertension in 60 year old man with Hematuria, Abdominal Pain and Fever"

CLINICIAN: WALTER M. BONNER, JR., M.D.
PATHOLOGISTS: GORDON R. HENNIGAR, M.D.
MARTIN M. BEGLEY, M.D.
H. RAWLING PRATT-THOMAS, M.D., EDITOR
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A 60 year old white man was presented for his second hospital admission in December, 1970, with generalized physical deterioration manifested by anorexia, nausea without vomiting, and marked muscle weakness. In 1962, he had been hospitalized for six months with tuberculosis, and since that time he had suffered from emphysema. Four months prior to admission he developed heart failure for which he was treated with Digoxin and Lasix with symptomatic improvement. He was also receiving Librium for anxiety and Darvon 65 compound for cervical arthritis.

According to the patient's family, he was a chronic alcoholic throughout his life. For the few months just prior to his admission, he drank a six pack of beer daily, potentiating this potation with Librium and Darvon compound. In addition, he dutifully took his prescribed Lasix and Digoxin. He ate and drank little else during this time. For the last month prior to admission he was anorexic, had chronic intermittent nausea without vomiting, and became progressively weaker. The severity of the patient's weakness the night of admission induced his family to take him to the Emergency Room.

He had numerous varying complaints other than the above during the months just prior to admission. Three months prior to this admission he suddenly developed bilateral intermittent claudication. Two months previously he developed subcalcaneal bursitis and plantar tendinitis. Two weeks prior to his admission he complained of bilateral costo-vertebral angle tenderness, and he had intermittent febrile episodes which continued. He had no other genitourinary symptoms. Ampicillin was prescribed, but his wife failed to fill the prescription. Nonetheless, his flank tenderness cleared. A visiting nurse disclosed that when she saw him one week before admission, the patient complained of a burning and numb sensation over the antero-medial aspects of his legs. Also noted was a steady rise in blood pressure from normal levels to 150/110 during the past four months.

On physical examination the patient appeared weak, lethargic, emaciated and chronically ill. He was moderately dehydrated. His vital signs were as follows: pulse 110 and regular, blood pressure 150/105, respiratory rate 20 and unlabored, temperature 99.6°. On retinal examination moderate arteriolosclerosis, moderate nicking and one flame hemorrhage were noted. Examination of the chest revealed an increase in A-P diameter with diffuse expiratory wheezing. Pulses were diminished in his lower extremities. Throughout the entire examination the patient complained

of muscle tenderness and he had a mild sensory loss over the medial aspect of his lower legs.

A hemogram showed a hematocrit of 45, a leucocyte count of 25,600 with 80 segmental neutrophils and 5 stab forms. There were 3 eosinophils. The urinalysis revealed a specific gravity of 1.010 with 2 plus albumin with 8 erythrocytes and 1 to 2 hyaline casts per high power field. The blood urea nitrogen was 25 and the creatinine 1.3. Serum electrolytes showed the following values: sodium 118, potassium 2.5, chlorides less than 70, $CO_2$ greater than 40. Blood gases gave the following values: pH 7.64, $PO_2$ 86; $PCO_2$ 47.5, $O_2$ saturation 97.9, buffer base 75. Electrocardiogram revealed a right axis deviation with right bundle branch block and a left posterior inferior hemi-block. Electrocardiogram taken 2 months prior to admission revealed only mild right ventricular hypertrophy.

The patient was treated with massive fluid and electrolyte supplementation. Under this regimen, his state of hydration improved, he gained strength and generally felt better. On the patient's fourth hospital day his serum electrolytes were: sodium 132, potassium 4.5, chloride 90, $CO_2$ 22. pH was 7.41, $PO_2$ 88, $PCO_2$ 42.5. Oxygen saturation was 96.2 and buffer base 48. The blood count, however, was essentially unchanged from admission and no cause for the leucocytosis was found. On that fourth day, the patient complained of vague abdominal pain which had no localization and no point of rebound tenderness was elicited. The patient was prescribed one 65 mg capsule of Darvon compound. Approximately three hours following this medication, the patient developed an erythematous rash which localized over the sides of his face with parotid swelling. He also developed constant diarrhea. The diarrhea was controlled with Lomotil 5 ml orally. The day passed without further incident. During rounds on the morning of the patient's fifth hospital day, he was noted to be in a semiconscious state, his right eye was markedly deviated laterally, and there was no movement of it. His left eye was in the midline and also without movement. He had a left hemiplegia and a moderate degree of right paralysis. Over the next two hours there was variation in the amount of paralysis on the left and the right sides. Plantar reflexes were equivocal. Approximately two hours after discovery of these neurologic signs, the patient suffered cardiac arrest and resuscitative efforts were unsuccessful.

**Dr. Bonner**: For several years I have been interested in the application of computer technology to the clinical practice of medicine. I took the information in this protocol and put it into the computer and it promptly gave a clear, unequivocal reply that will save a lot of time today. The computer output was as follows: "The data is not complete. Dr. Hennigar and Dr. Begley are pulling your leg. Please resubmit after correcting your data." Actually, in trying to solve clinicopathological cases we have to get the right data in the right order and separate the valid bits of data from that which is inconsequential. The case involves a middle-aged male, an alcoholic, who had tuberculosis with residual emphysema eight years before admission. He was apparently well until four months before admission when he developed hypertension followed by what was interpreted as congestive heart failure. Intermittent claudication was an important development and then he had an assortment of such symptoms as anorexia, nausea and muscular weakness. The three latter symptoms are all possibly related to drugs, alcoholism and diet and may not be pertinent to his primary disease. He also had flank pain, fever, neuropathy, subcalcaneal bursitis and plantar fasciitis. The examination confirmed the hypertension and emphysema as well as decreased pulses in his lower extremities. I think it is important to realize this is a diffuse, symmetrical sort of neuropathy and, therefore, probably nutritionally induced by alcohol. Muscular tenderness and weakness with dehydration are probably related to his diet and beer intake. I think the most significant facts are the recent development of hypertension with eye-ground changes indicative of a rapidly advancing and severe hypertension and evidence of obstruction in his distal aorta or iliac arteries. Specific laboratory

evidence is meager. He has metabolic alkalosis which is possibly drug induced. The leucocytosis may be of significance although a dehydrated patient may be febrile and have some leucocytosis. Proteinuria and microhematuria may be very significant. Microhematuria is a very important finding, but does occur in severe congestive heart failure. Electrocardiographic changes are certainly significant if indicative of myocardial damage or myocardial infarction. If, on the other hand, his electrocardiographic changes are merely those of right ventricular strain due to chronic pulmonary disease or related to some nutritional disease of the myocardium, then they are of no diagnostic help. Dr. Gazes, will you demonstrate and comment on the cardiograms?

**Dr. Gazes**: The QRS complexes are widened and show the typical pattern of right bundle branch block. In addition, right axis is present with Q waves in leads II, III, AVF indicating a left posterior hemiblock. The left bundle has two branches: The left anterior superior branch and the left posterior inferior branch. Since the right bundle is blocked and the left posterior inferior branch is blocked, this indicates that the patient is conducting primarily through the left anterior superior branch. In the event that this anterior superior branch was also blocked, then the patient would have trifasicular block and third degree AV block. This type of right bundle branch block with left posterior inferior hemiblock is usually due to degenerative changes in the conduction system primarily as seen with fibrosis. In this particular case, I do not feel that this is due to an acute myocardial infarction since there are no Q waves present in the anteroseptal area. In addition, the tracings reveal ST segment depression in $V_1$ and $V_2$ which, in view of the right bundle branch block, can indicate acute right ventricular strain. This type of strain pattern can be associated with pulmonary emboli. In summary, the tracings reveal right bundle branch block and left posterior inferior hemiblock, probably due to fibrosis. In view of the S-T changes, pulmonary emboli should also be considered.

**Dr. Bonner**: Dr. Begley assures me that the chest x-ray films showed only residual evidence of scarring in the right upper lobe and no other abnormalities. The course of the patient in the hospital was significant in that he improved after getting electrolyte replacement and rehydration which demonstrates that his muscular weakness and general disability were in part related to these factors and not to a primary disease process. He had some fever throughout. He also developed abdominal pain and tenderness and toward the end he had this peculiar rash, diarrhea and parotid swelling after taking a Darvon capsule. Perhaps this indicates sensitivity to Darvon, but he had been using Darvon for some time and had no previous trouble of this sort. One may certainly see parotitis in any dehydrated, chronically ill patient. They may develop true suppurative parotitis, but that does not seem to be the case here. The last event of importance was the sudden central nervous system damage with right opthalmoplegia and left hemiparalysis plus some weakness of his right side. This is most suggestive of midbrain damage and the most likely explanation is hemorrhage into this region. It may have originated from one of the small vessels and be related to his hypertension. On the other hand, these findings are typical of herniation of the temporal lobe through the tentorium due to intracranial hypertension such as might be produced by a subdural hematoma. There was never any other previous symptoms or signs indicative of cerebral disease, so I interpret this final episode as midbrain hemorrhage. I will briefly summarize the findings that I consider peripheral to his paramount disease. I do not believe alcoholism is related to his primary disease. It may produce such manifestations as dehydration, and nutritional deficits and even polyneuritis. Emphysema may have caused the right heart strain and the electrocardiographic changes, but I cannot see this problem leading to his death. Bursitis with inflammation and tenderness of the soles of the feet is an interesting development which is most commonly seen in patients who are debilitated and bedridden. I doubt that the polyneuritis is important as it is described as being

symmetrical and diffuse in both legs, and, therefore, is probably not indicative of ischemic neuritis. There is no clue at all that tuberculosis could account for the entire picture. I considered disseminated tuberculosis but the x-ray films show no infiltrates. Tuberculous meningitis or tuberculoma would not develop in such a dramatic fashion. Tuberculous peritonitis is much more common in alcoholics, but there is no evidence for it. He did not have ascites and I have never heard of it producing obstruction of the aorta or renal arteries and causing hypertension. Dr. Brackett, please give us your thoughts about the patient's fluid electrolyte depletion and whether this was in any way connected to his primary disease.

**Dr. Brackett**: The finding on admission of a moderately severe hypokalemic, hypochloremic alkalosis, not well defined, simply with a $CO_2$ of greater than 40, would be most consistent with the history of Lasix (Ruro-semide) administration. One point of interest on the electrocardiogram is the so-called "T on P phenomenon." I am not sure exactly what produces it, but it appears that there is a prolongation of the "T-wave" as well as an accentuation of the "U-wave" in severe hypokalemia. The appearance of "T on P phenomenon" suggests alkalosis, but, unfortunately, it isn't specific for metabolic alkalosis, but is also seen in respiratory alkalosis.

One point of interest is the degree of alkalosis which seems somewhat more severe than we usually see with diuretic induced alkalosis. The urinary findings suggest that there is an underlying renal functional abnormality though this is not clearly defined, but a serum creatinine of 1.3 and a blood urea nitrogen of 25 would be consistent with this degree of volume depletion in a 60 year old man. Thus, it would seem reasonable to speculate that secondary aldosteronism is present. The finding of a blood pressure of 150/105 with presumed intravascular volume depletion suggests that he may have an underlying but undefined cause for hypertension that is unresponsive to volume depletion. Most alkalotic patients who are otherwise normal would be normotensive and, indeed, may demonstrate postural hypotension. I would suggest then that he probably does have secondary aldosteronism that would contribute to the severity of the metabolic alkalosis associated with chronic Lasix administration. In any event the correction of the alkalosis was appropriate although not complete and by the fourth day he was certainly out of danger with regard to the acid-base disturbance.

My impression is that he has a disease that may or may not be related to progressive and moderately rapidly developing severe hypertension without severe functional impairment and this, of course, always intrigues us for the hope that it may be reno-vascular in origin. By reno-vascular in origin I mean that it could be at the level of the mainstem renal arteries and we have no evidence against that, or in the pre-glomerular vessels. Inferentially, the severity of alkalosis as well as hypokalemia, hypoatremia and hypochloremia would be more in keeping with secondary aldosteronism. If it were primary aldosteronism, one would expect a higher sodium—actually hyperchloremia has been noted but not readily explainable by me. I would say that the disease affecting this man's kidneys could involve anything from the periglomerular vessels to a vascular disease involving the main renal arteries. I see no way to narrow this down except that the red cells and casts make you think of something in the glomeruli.

**Dr. Bonner**: I consider the following findings to be of consequence and to represent reflections of his primary and principal disease. The recent development of hypertension is of major import. Intermittent claudication indicative of distal aortic disease or iliac artery disease is highly significant. Fever and leucocytosis are probably reflections of his primary disease. The abdominal pain has not been explained and could be very important. Hematuria is always a significant finding and is probably a component of his basic disease.

Of course, atherosclerosis is a very common disease in this age group and could account for some of the symptomatology such as intermittent claudication and renal artery stenosis with hypertension. Dissecting ancurysm is another appealing idea. It could have pro-

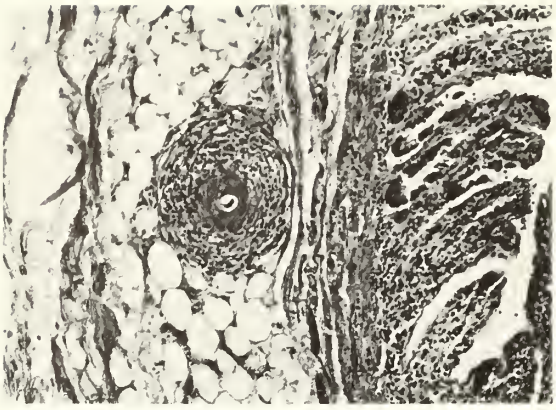


**Figure 1. Small artery in intestinal wall showing fibrinoid necrosis and diffuse acute inflammatory reaction. Hematoxylin and Eosin X 150.**

duced sudden occlusion of the carotid arteries and picked off other major vessels such as coronaries, renals and iliacs. However, he had no pain and there was no report of aortic abnormality on the chest x-ray film which is almost certain to be present in a dissecting aneurysm of the aorta. Other possibilities are the inflammatory diseases of the large branches of the aorta such as Takayashu or pulseless disease. This usually affects younger people, particularly women, and is confined to the aortic arch. It does not usually affect the branches of the abdominal aorta, so I don't think it's likely here. Temporal arteritis is a similar process that can affect the larger blood vessels including branches of the aortic arch, but usually not elsewhere. The man may have had a myocardial infarction with mural thrombosis and be sending showers of emboli to the vessels of various organ systems. This is why we stressed the electrocardiographic abnormalities. The fact that Dr. Gazes does not think the electrocardiogram supports the diagnosis of myocardial infarction appears to eliminate the possibility of embolic phenomena, at least from cardiac mural thrombosis. Small vessel damage in various locations could produce this picture and the disease which commonly is responsible for such involvement is periarteritis or polyarteritis nodosa. This could certainly account for the symptomatology in this man. He had weight loss, weakness, muscle tenderness, persistent fever, hypertension, hematuria and abdominal pain. At least 50 per cent of patients with polyarteritis have hypertension. Peripheral neuropathy occurs in polyarteritis, but it is usually different from that one described in this patient. Abdominal pain and flank pain are frequent manifestations of polyarteritis. The cerebral accident could be due to the polyarteritis per se or secondary to the hypertension and some degree of atherosclerosis. I thought polyartertitis was the most likely thing; it seems to explain the manifestation with one major exception, that is the decreased pulses in his legs. This would indicate involvement of vessels of a different size. Polyarteritis affects arteries of small and medium size and not those of such size as the iliacs.

**Dr. Hennigar**: The final pathological diagnosis is: POLYARTERITIS NODOSA WITH WIDESPREAD VASCULAR INVOLVEMENT INCLUDING THE BRAIN. Dr. Begley will describe the necropsy findings.

**Dr. Begley**: At autopsy the patient was emaciated and the facial rash and parotid swelling were noted. Upon opening the abdomen and examining the intestine, areas of ulceration and devitalization were noted. A section of the liver through the porta hepatis revealed small and medium sized arteries exhibiting aneurysm formation and thrombosis. Examination of the kidneys revealed scarring, areas of cortical infarction of varying age and again aneurysm formation in small and medium sized arteries with thrombosis.

Gross examination of the brain revealed

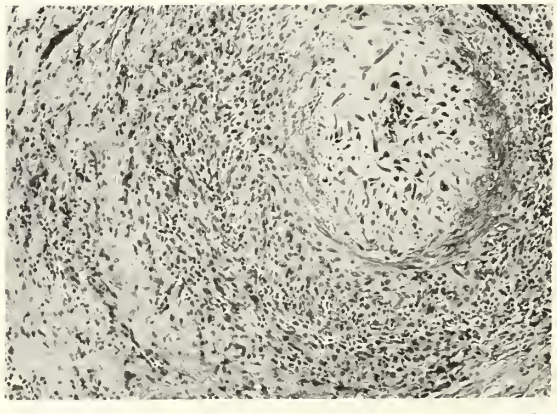


**Figure 2. Artery with organizing thrombosis and arteritis with varied inflammatory infiltrate. Hematoxylin and Eosin X 175.**

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hemorrhage in the pons with involvement of the cerebral peduncles. Also subarachnoid hemorrhage was found involving the frontal poles of the brain. Meningeal and intrapontine blood vessels were involved by the polyarteritis and this accounted for the hemorrhage. The lesions of polyarteritis were diffuse and of varying ages. In the most acute stages the vessels showed fibrinoid necrosis and an infiltrate primarily of polymorphonuclear leucocytes. (Figure 1) Older lesions with predominant plasma cell and lymphocytic infiltrate with organizing thrombosis were frequently observed. (Figure 2) Still older lesions show aneurysm formation and thrombosis. (Figure 3) Destruction of the elastic lamellae is strikingly displayed with the Verhoeff-van Gieson stain. (Figure 4)

The kidney glomeruli showed none of the changes frequently associated with polyarteritis save for the infarcted areas. The infarction was due to the vascular changes which were the most prominent findings. Aneurysm formation and thrombosis were again noted. The splenic vessels showed similar vascular changes. Marked vasculitis was noted in the stomach with fibrinoid necrosis and intimal hyperplasia. In the stomach, pancreas and liver end stage vessels with complete destruction and fibrous obstruction were noted.

**Dr. Hennigar**: The heart did not show any infarction as Dr. Gazes predicted although coronary arteries were involved by the disease. The lungs in this case revealed some small areas of centrilobular emphysema, but no morphological changes which would translate into functional emphysema. No evidence of Wegener's granulomatosis was present.

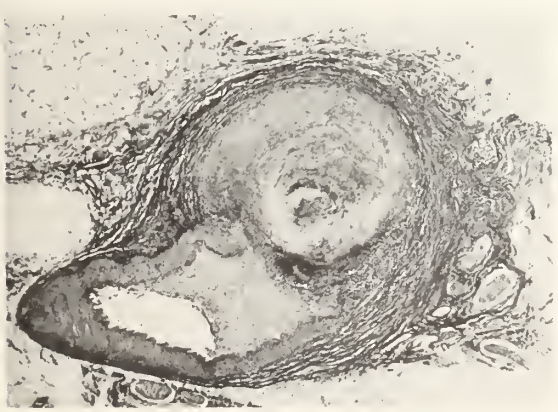


**Figure 3. Old thrombosed aneurysm projecting from artery that has had a portion of its wall destroyed. Hematoxylin and Eosin X 75.**

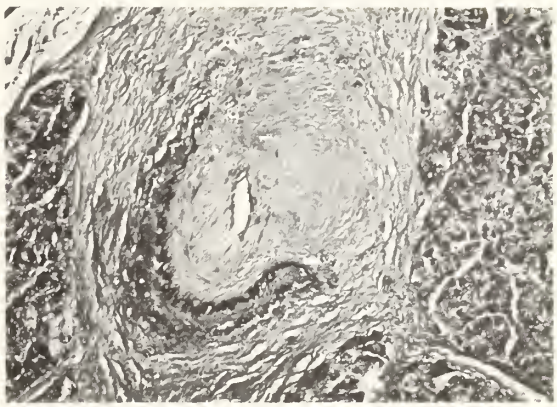


**Figure 4. Old aneurysmal dilatation sealed by a fibrous scar. Destruction of wavy black elastic lamellae clearly shown. Verhoeff-van Gieson X 75.**

In the development of polyarteritis, it is well known that any drug may act as a hapten and bring about anaphylactoid type hypersensitivity. The reaction can be immediate as in the Arthus type phenomenon or a delayed type bringing about the plasma cell infiltrate. As to the possible association between the administration of Darvon and the polyarteritis, I don't feel that the clinical evidence supports incrimination of any drug. I am disappointed when I study a case of polyarteritis and am unable to identify the antigen, but this is usually the rule rather than the exception.

This pattern of renal infarction is not uncommon in polyarteritis nodosa. It appears that polyarteritis has involved these kidneys long enough to cause chronic vascular lesions with ischemia and some atrophy. Acute episodes can continue to occur with resulting hematuria. I've had the opportunity to analyze 40 cases of polyarteritis nodosa before the advent of steroid therapy and in only two cases was there a lack of kidney involvement. I think it is accurate to say that rarely do the kidneys escape glomerular or blood vessel involvement in polyarteritis.

The nerves of the legs in patients with polyarteritis nodosa often show involvement due to damage to nutrient arteries by the dis-

ease. Frequently involvement of the arterial tree of the lower extremities leads to amputation. No evidence of involvement of the iliac arteries was noted in this patient. Although polyarteritis is usually considered a disease of arteritis is usually considered a disease of small and medium sized arteries, the larger arteries may be involved, if not directly, then as a reflection in the larger arteries of implication of the vasa vasorum.

Occasionally even veins are involved. I appreciated the mention of a chronic dissecting aneurysm as part of the differential diagnosis as such a process can involve the renal arteries and give rise to a hypertensive situation.

**Dr. Kelly McKee**: How often do you have pulmonary involvement in polyarteritis?

**Dr. Pratt-Thomas**: I have not been impressed with pulmonary involvement in this entity although it does occur, as frequently as in 25 per cent of cases, according to some. It is, of course, the sine qua non of Wegner's granulomatosis as involvement of the pulmonary vessels is necessary to make this diagnosis. I would like to ask Dr. Hennigar in how many of the 40 cases he reviewed were the aneurysmal nodules present from whence this entity received its name. The aneurysms shown by Dr. Begley are beautiful, but they are present in the minority of cases of polyarteritis.

**Dr. Hennigar**: Well, I don't remember as my review was from the standpoint of kidney disease. I feel that if the patient survives long enough, you are more likely to have aneurysms.

**Dr. Gazes**: A paper I've recently seen noted that aneurysms demonstrated in the kidneys on aortogram were diagnostic.

**Dr. Richardson**: I think that involvement of the lung in polyarteritis is a semantic as well as a clinical problem. It has to do, at least in terms of internal medicine, with some English clinicians who describe polyarteritis as always involving the lungs. This is partly a clinical observation based on transient infiltrates on radiological examinations. In addition some of the descriptions fit what most Americans call Wegener's Granulomatosis. We tend to separate the entities being impressed with the clinical differences.

**Dr. Hennigar**: Granted! Wegener's Granulomatosis and polyarteritis have a common morphological denominator but they have striking differences clinically.


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# President's Pages



Health care delivery is still the current catch phrase used in countless publications and discussions, to characterize the system of medical practice currently in use in our great United States of America. The phrase is also used as a spring board for its foes to attack it, and simultaneously claim that it has to be changed radically in order that everyone shall have an equal right to a blissful state of mental, physical, and social well being. It is claimed, under our pluralistic system in use at present, that equal rights and equal access for all do not exist, and that some type of legislation enacted in Washington will bring about a miraculous transformation that will be the solution to all of our problems.

It is forgotten that in countries having so-called National Health Insurance and Socialized Medicine, important persons get prompt attention and superior care, but the masses stand in line and get very impersonalized care and then only after extraordinary delays during which initially uncomplicated illness may become seriously complicated before medical assistance can be obtained. Even though it is true the persons of privilege in this country have easier access to medical care, surely the others have easier access than the less privileged in other countries. In Italy and Russia, it is reliably estimated that five percent or less of the population have access to prompt and adequate medical care. In England, a high percentage of patients with myocardial infarction are treated at home, and they do not have even the benefits of an electrocardiogram or enzyme levels. Also in England, an average patient is allotted an average of three minutes a visit. The English family practitioner is in danger of becoming, if not already, little more than a triage officer, with less and less experience in treating the really sick, with whom he has no responsibility whatsoever after they are referred to a specialist in a hospital. Many other examples could be cited as evidence that a socialized medical system is not as efficient or economical as the private enterprise system.

The costs of the national health insurance schemes under discussion in the 92nd Congress now are, or should be, appalling. The Nixon and the Kennedy bills could easily lead to bankruptcy or an insuperable burden for present or future gererations. It is difficult to comprehend why we have let our government spend so recklessly since the day of the New Deal, to the extent that now the third largest item in the federal budget is the interest on the national debt. It has been tolerable to date only because the federal government can cause inflation to cover its fiscal irresponsibility and the vicious cycle is on. Inflation is the chief basis for the increasing costs of medical care. Would wage and price controls even be necessary if we could be content with a balanced budget? Obviously, inflation would not be necessary if our government would cease and desist almost limitless borrowing, except in times of a true national emergency, in the case of war with another country truly endangering the continued independence and freedom of our country.

In a truly federalist system of government, such as we are supposed to have, state and local authorities should share in the discharge of governmental functions. At least one of these

can certainly be continued responsibility for the medical care of the indigent sick, which is certainly our greatest need.

Surely this or some other constructive alternative must exist to the wasteful bureaucracy and lesser quality of medical care under a government administered and financed program.

Edward F. Parker, M.D.
President

# Editorials

## A Plea and a Plan

First the plea—a medical journal is only as good as the scientific material it publishes. The Editor can wax eloquent in editorials, the editorial staff can scrub and polish the language in the journal, but unless good scientific articles are submitted for publication, the journal will be weak. Your *Journal of the South Carolina Medical Association* is chronically deficient in quality scientific articles. We must have more material to maintain a high quality journal. This month we did decline and return two articles submitted for publication, but this left us with only three suitable articles, much too little. Unless we receive more material for publication, the quality of this journal will certainly decline.

We feel the Medical University of South Carolina has a distinct obligation to support this journal with scientific material for at least two reasons: (1) The physicians of South Carolina are interested in what is going on at MUSC. (2) The SCMA supports the MUSC in many ways that should be reciprocated.

The several post graduate training programs in South Carolina, besides those at MUSC, should have strong motivation to publish in this journal. It would be good for the individual authors, it would enhance the reputation of the program in the state and in the Southeast, and it would be a big help for the journal.

The various state agencies owe it to the physicians of the state to publicize their activities and findings.

Private practitioners in the state should be (1) devoted enough to their profession, (2) curious enough about their practice, and (3) loyal enough to their Association to record and report to their colleagues some of their clinical observations.

If all of these parties lived up to their responsibilities, we should have enough material to produce an excellent scientific section. Otherwise, our cause may be lost.

Now for the plan. . .

One of the greatest medical needs in South Carolina is for more physicians, particularly in some of the outlying areas. In an effort to facilitate this need, the JSCMA plans to provide a page for "Opportunities" and "Positions Wanted." Anybody, any organization, any locality desiring a physician is invited to describe the situation *free of charge* in the "Opportunities" section. Any physician from anywhere considering locating in South Carolina is invited to present him (or her) self in the "Positions Wanted" section, *free of charge.* We will be happy to run these notices "blind" with only a number for reply, if desired. Submit all material to Editor, JSCMA, 2709 Laurel Street, Columbia, S. C. 29204. If we can match only one or two physicians and compatible locations, it will be well worth the effort. Let the ads roll in!

### Some Further Thoughts on Evolution

Now that medicine is more technology than philosophy, it may seem strange to some for *The Journal* to feature an article on Evolution. However, we should all recall that our groundroots, our medical origin, sprang from deep philosophical thinkers. Also, it is worth recalling that Darwin and his chief protagonist of his era, Lamarck, both began their professional careers in the study of medicine. Both, fortunately, soon recognized the limitations in their study of medicine; Darwin turning to education in the ministry and Lamarck to biological studies.

Contrary to generally accepted thought of today, at the time of its formulation, Darwinism was not synonymous with evolution. In fact, evolutionary speculation goes back certainly as far as Aristotle, and the great French thinker, Lamarck, had formulated some concepts of evolution several decades before Darwin. As Irvin's soaring paper points out, it was Wallace's precognition of evolutionary principles that forced Darwin to present somewhat prematurely (he thought) his theory to the Linnean Society in 1858.

Although Darwin rewrote his work *On the Origin of the Species* for a total of six editions, he did not change his fundamental principles: (1) Variation—present in all forms of life, (2) Heredity (which he did not understand)—the stabilizing force which transmits similar organic form from one generation to the next, and (3) The struggle for existence—which selectively alters life toward the best adapted.

Scientific, theological and political controversy raged about Darwin's theories. Yet as further scientific studies elucidated nature, Darwin's ideas became ever more firmly established. A strong example of this is Mendel's laws of inheritance, not recognized until 50 years after Darwin's first paper, which confirmed Darwin's and contradicted Lamarckian ideas.

In summary, we tend to agree that Darwin was the single most significant man of the modern era.

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### Preventive Medicine — Glass Doors

Last week an orthopedic surgeon was roaring out the door of Richland Memorial Hospital in Columbia. Just as he pushed on the gleaming new glass door to step outside, the glass shattered, a heavy section of glass struck the dorsum of his hand, severely lacerating the skin, but fortunately missing tendons, nerves, and arteries. Luckily, the hand was saved and only a few days of disability ensued. There, but for the grace of God, go any of us.

This frightening episode should emphasize an effort by Dr. O. B. Mayer and others to implement a requirement for safety glass in all precarious locations. You may receive a questionnaire about the number of such injuries you see in your practice. It is more common than you might realize. Be thinking about this health hazard and help eliminate it!

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**SUBSCRIPTION RATE CHANGE**

**Beginning January 1, 1973, the subscription rate will be $6.00 per year in the U. S. For Foreign subscriptions the rate will be $7.00 per year. There are no special rates provided.**

# REPORT OF THE 32nd ANNUAL OCCUPATIONAL HEALTH CONGRESS OF THE AMERICAN MEDICAL ASSOCIATION CHICAGO, SEPTEMBER 10, 11, AND 12, 1972

Sunday, September 10, began with an informal luncheon followed by an informal discussion with general presentation of topics of interests. Dr. Henry Howe had been a member of the Presidential Committee for evaluating the workman's compensation acts throughout the United States under the physician's guide to occupational safety and health acts of 1970. The general conclusions made by the committee were that state laws were inadequate and inequitable as regards coverage, payment, rehabilitation, etc.

Recommendations of this committee were:

(1) There was no advantage of a federal take-over as the federal government shows no greater ability to initiate or handle this type problem than do the states.

(2) Therefore, keep the same state system but enlarge upon it and make it more efficient by an increase in wages of those employed and an increase in funds to employ more people.

(3) Social security would not be an answer as they can determine only eligibility and have no experience in disability, permanent, partial, etc. Wage replacement is of the utmost importance and does not start until months after injury on social security. The feeling of the committee was that help was needed for the worker now at the time of injury.

(4) Private insurance seems to work best of the poor methods now available, i.e. not to rely on state funds, federal funds, or employer's personal funds.

(5) There has been no incentive for safety, accident prevention or rehabilitation of the worker in the current systems. This should be accomplished.

(6) The state should be given the chance to prove themselves, one more chance by 1975. The vote of the committee was 12 yea and 3 nay. The 3 nay submitted a minority report stating that they favored immediate enforcement of the standards of this condition instead of waiting for three years.

(7) A 7th recommendation was made to establish a partial commission to continue this study. The present commission terminates its being at the end of October which will be 15 months after its inception. It is felt that particularly permanent partial disability should be worked, which is considered to be in chaos at the moment. The commission's total report was not available as all Dr. Howe had with him were the galley proofs.

It is felt by the committee that Congress should enforce standards if they were not brought to par in three years. An example would be permanent total disability of average weekly wage should receive two-thirds of this by 1973 and 100% by 1975. This is not to be confused with the worker's personal average wage but the average wage for that occupation.

Another thought had by the Commission was that payments should be in some fashion connected to the cost of living by some type of index which would reflect general rising costs. Actually, payments percentage wise have slipped backwards for the past 30 years. The high point was apparently reached in 1940.

Other thoughts that were brought forth during this session were what does one do with the worker after four years of permanent disability? Can he be put on welfare? It was the feeling of the Commission that no arbi-

trary limits on total time or on rehabilitation should ever be put. It is felt that workman's compensation should be forced, not elective on all employers and all industrialists. It was the general feeling of the Commission that this would be no problem at all except in the case of migrants and day workers. Dr. Howe stated that he felt that these could be covered quite easily and adequately by the state deducting along the same lines as social security which is currently being done. A special board in each state could be set up for these type people. It is felt that no occupational group should be excluded and as an instance the seven sawmill workers were pointed out.

Poor coverage of all occupational disease should not have to be listed by the legislative body and added to as events dictate. This should be a broad group with logical conclusions being drawn by an outside board not having to deal with the legislative body.

As regards to the medical rehabilitation, it was felt rather silly and asinine to have a limit on the amount of total medical rehabilitation that the patient should have. An example was given that if a worker had an injured hand and needed four reconstructive procedures on it, they would be quite silly to quit after three because the money was used up.

Application for claim was discussed as to whether it should be at the site of origin of the majority part of the worker's work area or should the worker be able to choose the area that he would like to be rehabilitated in. An example of this was that of an airline's worker who would leave Charleston, S. C., Atlanta, then to Dallas and onto Los Angeles. If this worker received an injury inbound to Atlanta, it was felt by the commission that he should have his choice of any of these places to be rehabilitated.

The major conclusion that was brought out by Dr. Howe was that if this was not done voluntarily by 1975 on the state levels, then the Congress should make all states conform to the outline of the 1970 Occupational Safety and Health Act. The committee did not recommend that the federal government do this but this reporter felt that at all points of the discussion only the side of the labor was brought out and that in the long run the ultimate goal or result in any action taken by Congress would add yet another phase of medicine under complete and total federal government control.

During the afternoon of informal discussion, South Carolina was put on the spot several times as we have the least amount of compensation to our workers prior to May of 1972. Leading the list of progressive states was Alaska, followed by Arizona and Hawaii. Also, well up on top were Wisconsin, California, and New York.

It is felt that poor payments in a lump sum was generally a bad idea unless an individual wished to start a small industry in his own home. It is also felt to be realistically difficult to obtain as the lawyers generally control the state legislative body.

One of the most practical suggestions that was brought forth was that of establishing a board for consultation with small employers consisting of H.E.W. and Labor and there would be no first trip citation unless there was imminent danger to the employees and/or general public. It would be good of these committees or boards to get out some type of simplified code so that the small employer would have some basic knowledge of the law as currently it is impossible for a small employer to have good grasp of the law.

It was brought out that Labor was very definitely in favor of the states doing the job of workman's compensation rather than the federal government because the states have had a great deal of experience in it and the Labor body is as opposed to federal government stepping in any fashion as are the states due to beaurocracy and inefficiency.

Throughout the day's presentation and in the days that followed this reporter got the distinct impression that the whole program was being presented primarily from the labor point of view and very little general emphasis was placed on the employer.

The next two days were spent in presentation of different points of view of current problems and how they are being handled. One of the major topics that was discussed was the multi-phase health testing or MPHT. One of the greatest difficulties with MPHT was that the late public upon getting a

favorable report from such testing was thought to be erroneously convinced that they were going to be healthy forever and ever. In the MPHT and the TVA area it has been reported that those workers over 50 years of age were given an AP examination of the abdomen along with routine PA chest and that the abdomen revealed more pertinent abnormal findings than did the chest film. This fell into the category of undiagnosed gallstones, renal stones, and aneurysms. A number of malignancies picked up in this fashion also apparently exceeded those found in the chest.

Those who reported on nuclear reactors stated repeatedly that the fail-safe procedures made these reactors quite safe as far as the general public was concerned. They were less certain about thermal pollution. The general impression was that the best fishing could be found about the mouth of the heat exchange outlets.

Aviation medicine was thought about at some length and went over the more urgent things that being any airport with a constant population of greater than 4,000 could support a physician and that one should be allowed to practice there, not being employed by the airport but allowed to practice. The recommendation was made that airplanes be brought closer to the passengers as most of the heart attacks occur on those over 50 who were running with heavy luggage down long concourses trying to make a schedule.

Other topics were brought forth but this reporter feels that the jist of pertinent information is outlined above.

Respectfully submitted,

James F. Dusenberry, Jr., M.D.
Secretary
Industrial Medicine Committee
South Carolina Medical Association
111 Lakeview Circle
Clemson, South Carolina 29631

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**New Members, SCMA**

**Dr. David P. Allred**
Medical Center
Greenwood, S. C. 29646

**Dr. E. Vernon Anderson, Jr.**
13 Med. Court
Greenville, S. C. 29601

**Dr. Terrell O. Carver**
Box 367
Marietta, S. C. 29661

**Dr. Russell Edward Harner**
606 Pendleton St.
Greenville, S. C. 29601

**Dr. William O. Holloway**
1220 Spring St.
Greenwood, S. C. 29646

**Dr. John A. Kinard**
495 Dantzler, NE
Orangeburg, S. C. 29115

**Dr. James S. McIlwain, Jr.**
Denmark, S. C. 29042

**Dr. E. Arden Weathers**
860 Holly, NE
Orangeburg, S. C. 29115

**Dr. David H. Webster**
24 Vardry St.
Greenville, S. C. 29601

The South Carolina Medical Association still has on hand a number of copies of Volume 2 and Volume 3 of "A History of Medicine in South Carolina" by Joseph I. Waring, M.D. Volume 2 covers the period of 1825 to 1900 and Volume 3 is from 1900 to 1970. These can be purchased now by members for $4.50. Volume 1 (1670-1825) is out of print. Order now in time for Christmas.

ORDER FORM

South Carolina Medical Association
Historical Committee
c/o Joseph I. Waring, M.D.
80 Barre Street
Charleston, South Carolina 29401
Please send me—

( ) copies of A HISTORY OF MEDICINE IN SOUTH CAROLINA 1825-1900 by Joseph I. Waring, M.D. – Volume 2– $4.50 each plus 30¢ for postage and handling.

( ) copies of A HISTORY OF MEDICINE IN SOUTH CAROLINA 1900-1970 by Joseph I. Waring, M.D. – Volume 3 – $4.50 each plus 25¢ for postage and handling.

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The Journal of the South Carolina Medical Association

## 50 YEARS AGO

**November, 1922**

A paper by Dr. George E. Thompson of Inman gives a picture of rural obstetrical practice. Of one scene he says, "that the night at last draws to an end, the wind forgets the creaking shutter, the chanticleer screams his challenge on the morning and hears the replies of his rivals. We look through the window on the bleak winter morn cheerless but for the brightening light in the east, but as the dawn grows, the patient's strength returns for the final effort."



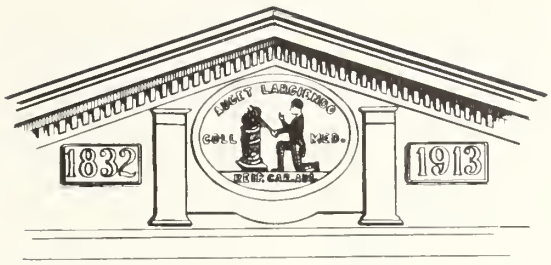

**Dr. William R. DeLoache,** Greenville pediatrician, joined the professional staff of the Greenville Hospital System on a full-time basis on September 7 as Director of Newborn Nurseries. Dr. DeLoache received his M.D. degree from Vanderbilt University School of Medicine and began practice in Greenville in 1949. **Dr. David K. Stokes, Jr.** has been appointed Director of the Spartanburg General Hospital Family Practice Residency Program and an associate professor of the Medical University of South Carolina. He has been in private practice in Inman since 1959, after receiving his degree from the Medical University in 1957 and serving his internship at Spartanburg General Hospital. **Dr. Warren F. Holland, Jr.** a specialist in Cardiology and Internal Medicine in Columbia, has been elected Chief of the Clinical Department of Cardiovascular Services at Providence Hospital. **Dr. David Tribble,** cardiovascular surgeon, was named vice chief.

**Dr. Julian K. Bleeck** has been appointed chief of psychological services at Crafts-Farrow State Hospital, one of five major facilities of the South Carolina Department of Mental Health. Prior to joining the Crafts-Farrow State Hospital staff, Dr. Bleeck was chief psychologist at the Vernon State Hospital in Vernon, Texas. **Dr. John P. Sutton** of Columbia has been invited by Providence Hospital to devote part of his time as director of cardiovascular surgery at the hospital. Dr. Sutton will continue to allocate the majority of his time to his private practice.

A Florence physician, **Dr. Edwin McGee,** was elected president of the American Cancer Society, South Carolina Division, during its annual meeting in September. **Dr. Laurie Ervin, Jr.** of Greenville was elected vice president. Special honors were conferred on **Dr. John M. Fleming** of Spartanburg, completing 25 years of service as a division board of directors member and six years as South Carolina's delegate to the national society. Elected to the Society's board of directors were: **Dr. Thomas Rowland, Jr.,** of Columbia, **Dr. Mac Davis, Jr.,** of Spartanburg, **Dr. Lewis Terry, Jr.,** of Greenville, **Dr. Ronald Gerughty** of Charleston, **Dr. L. M. Rosemond** of Gaffney and **Dr. Stanley James** of Union. Honorary memberships were voted for **Dr. Leland J. Brannon** of Columbia, **Dr. Jennings K. Owens, Jr.** of Bennettsville, **Dr. George E. Meetze** of Columbia, and **Dr. Richard L. Jackson** of Myrtle Beach.

**Dr. William B. Gamble,** Charleston pediatrician, has joined the State Board of Health staff as state epidemiologist. He will direct evaluation, research and control activities related to preventable diseases. Dr. Gamble is an honor graduate of the Medical University of South Carolina and the University of North Carolina School of Public Health. Columbia Pediatric Associates, P.A., **John R. Harvin, M.D.** and **Charles A. James, M.D.,** are pleased to announce the association of **Michael R. Papciak, M.D.** for the practice of pediatrics.

Nine South Carolinians were inducted as new Fellows of the American College of Surgeons during the annual five-day Clinical Congress. They were: **Attilio A. Ceraldi** of Abbeville; **Fredic D. Schuh** and **Gordon T. Wannamaker** of Charleston; **John W. Brown** of Columbia; **Victor E. Cornett** and **Daggett O. Royals** of Greenville; and **Richard L. Conn, James F. Green,** and **William A. Morris** of Spartanburg.




## Medical University of South Carolina

Nationally prominent men of medicine served as panelists during a symposium on "Practical Approaches to the Diagnosis and Treatment of Diabetes Mellitus" at the Medical University of South Carolina last month.

The speakers included Dr. Thomas G. Skillman, chief of the Division of Endocrinology and Metabolism at Ohio State University College of Medicine; Dr. Joseph C. Shipp, chairman of the Department of Medicine at the University of Nebraska Medical Center; Dr. John K. Davidson, director of the Diabetes Unit at the Emory University School of Medicine; Dr. Ronald Arky, professor of medicine at Harvard Medical School; and Dr. John A. Colwell, director of the Division of Endocrinology, Metabolism and Nutrition at both the Medical University of South Carolina and the Charleston VA Hospital.

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Dr. John Arthur Siegling, chairman of the Department of Orthopedic Surgery at the Medical University of South Carolina, presented a paper before the Societe Internationale de Chururgie Orthopedique et de Traumatologie in Israel.

The meeting of the S.I.C.O.T., which is held every three years, ran from October 9 through 13 in Tel Aviv. Dr. Siegling has been a member of the Societe for twelve years and is one of 200 orthopedic surgeons in the United States invited into membership.

The title of Dr. Siegling's paper is "Coxa Vara," concerning a hip condition in children.

Approximately 150 medical librarians attended the 22nd annual convention of the Southern Regional Group of the Medical Library Association meeting in Charleston in October.

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David L. House, head of Bibliographical Services, University of Tennessee Medical Units Library, Memphis, Tennessee, is chairman of the Southern Regional Group.

He and William D. Huff, vice president for Public Relations and Development at the Medical University, delivered the opening remarks Friday.

Dr. Joseph I. Waring, curator of the Medical University's Waring Historical Library at MUSC, addressed a Friday night banquet.

Dr. Donald Hendricks, director of the University of Texas Southwestern Medical School Library, Dallas, Texas, chaired a panel discussion on the theory and philosophy of library networks and networking.

John Ische, director of libraries, Louisiana State University Medical Center, New Orleans, La., was moderator for a panel discussion on practical ideas from a variety of health science libraries in the Southern Region.

Convention chairman was Warren A. Sawyer, director of Medical University of South Carolina Libraries.

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The Medical University of South Carolina Library has been awarded a $100,000 project grant by the National Library of Medicine. The funds will be used to strengthen the library holdings of Richland Memorial Hospital, Greenville General Hospital and Spartanburg General Hospital. These three hospitals have joined with the Medical University to form the South Carolina Medical Education Consortium.

According to Warren A. Sawyer, Director of Libraries at the Medical University and Project Coordinator for the grant, the funds will permit the Medical University to provide the member hospitals with library services adequate to support the educational programs

of the consortium and will establish three biomedical reference centers in the state.

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The annual meeting of the South Carolina Orthopaedic Association was held September 16-17 at Hilton Head, S. C. Dr. S. Edward Izard of Charleston was elected President-Elect for 1972-73 to succeed Dr. C. D. Riddle, of Greenville.

Awards presented at this meeting to South Carolina orthopaedic residents for research papers went to the following Medical University of South Carolina recipients: Dr. Fred S. Williams, first prize, for his paper "Inferior Dislocation of the Shoulder", carrying an honorarium of $100; and Dr. John L. Eady, third place, for "Excision of Elbow following Trauma." Receiving second prize was Dr. Veda Thaker of Greenville.

Guest speaker at the meeting was Dr. William Donaldson, of Pittsburgh, Pa., who presented a paper to the Association on "Current Concepts and Management of Scoliosis."

Attending physicians from Charleston were Drs. John Arthur Siegling, chairman of the Department of Orthopedic Surgery, MUSC; S. Edward Izard; Edward L. Hay and Ritchie Belser.

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Dr. Leon Banov, a pioneer in community health, was honored posthumously as a Distinguished Alumnus by the Medical University of South Carolina Alumni Association.

His son, Dr. Leon Banov, Jr., a 1941 graduate of the Medical University, accepted the Award during a banquet Friday, October 6.

Also honored at the banquet at the Colony House was Dr. J. C. Aull, who recently retired as professor of chemistry after teaching at the Medical University for more than 45 years.

The late Dr. Banov received a degree in pharmacy in 1907 from the Medical University and later became an instructor in the School of Pharmacy. In 1917 he graduated with a degree in medicine and in 1926 became professor of public health and preventive medicine at the medical college.

Dr. Banov was named the first director of the Charleston County Health Department in 1920, retiring from the post in 1961. In 1919, he made Charleston the first city in the world to require pasteurization of milk products.

He was a delegate to the 1930 International Congress in Germany. In 1961, he received an honorary doctor of laws degree from the College of Charleston and was honored by having the new county health center named for him. He has been honored on numerous occasions by civic clubs and other organizations. Dr. Banov died earlier this year.

Dr. Aull retired in 1970 after 45 years of teaching medical, pharmaceutical and nursing students at the Medical University. A native of Pomaria, S. C., he came to MUSC in 1924 as an instructor in chemistry. He had earned a bachelor of science degree in agricultural chemistry at Clemson University, attended the University of Chicago and received a master of science degree from the University of Michigan.

He holds an honorary doctor of science degree from Clemson. The long-time teacher authored and co-authored 25 publications during his career. He was awarded the Golden Apple Award in 1961-62, an award presented anually by the Student American Medical Association for excellence in teaching.

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Dr. Hiram C. Curry, chairman of the Department of Family Practice at the Medical University of South Carolina is on a round-the-world trip to participate in two international family practice medicine conferences.

The first stop was in Tel Aviv at the International Workshop on Family Practice where Dr. Curry presented a paper entitled "Can Family Practice Programs Meet the Need?", and acted as moderator for a day's conference. Family practice doctors and teachers from England, Australia, Canada, Israel and the United States participated. Dr. Curry said that about seven participants were invited from the United States.

According to Dr. Curry, Israel began years ago in the early 1950's to develop the concept of medicine for practice on a family level, and is now one of the leaders in this field. The other participating countries comprise the nations where the principal developments have taken place.

From Israel, Dr. Curry will travel to Melbourne, Australia, for the Fifth World Confer-

ence on General Practice (not to be confused with "general practice" as known in the U.S.). There Dr. Curry will moderate a workshop on teacher training and present a paper entitled "Teacher Preparation for Family Practice." He will also address the full conference on "Motivation for Self-Education."

Dr. Curry has accepted several invitations to visit medical centers in Sydney, Australia, and Aukland, New Zealand, before returning to the United States.

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The Medical University of South Carolina has been notified of major federal funding to develop a statewide system of Area Health Education Centers.

Dr. William M. McCord, president, announced that some $9.8 million has been recommended over a five-year period by the Bureau of Health Manpower, National Institutes of Health, with an initial award made today of $1,152,476.

Additional funds from a variety of sources, including federal, are expected to boost the financial input to nearly $20 million for the total period.

The program, said Dr. McCord, has every prospect of becoming an important national model for the future delivery of health care.

Four metropolitan areas in addition to Charleston are proposed for inclusion in the project this year, a community hospital in each area to serve as a nucleus for the program.

They are: Columbia, Richland Memorial Hospital; Florence, McLeod Memorial Hospital; Greenville, the Greenville Hospital System; and Spartanburg, the Spartanburg General Hospital. Charleston is already an area health education center because of the location here of the Medical University.

In time, additional communities are expected to enter into these consortium arrangements.

The program encompasses concepts similar to those crystallized in the Carnegie Commission's special report on higher education "Higher Education and the Nation's Health", and proposed by the President in his "Health Message" to Congress in February, 1971.

Its ultimate purpose is to increase the numbers and improve the distribution of health care personnel, thus bringing quality health services within easy travel distance of all South Carolinians.

The South Carolina State Legislature and the Governor were credited with an important assist in obtaining the huge award. Dr. McCord noted that the State appropriated $500,000 this year to start a four-community hospital teaching consortium. This became the seed money to match federal funding for an expanded program on a one-to-two basis, he explained.

Major activities proposed are:

—Promotion of good health practices and prevention of illness.

—Recruitment of women, the minorities and the disadvantaged.

—Undergraduate education of health professionals on a rotational basis.

—Clinical training of nurses and allied health personnel in cooperation with educational institutions.

—Continuing postgraduate and in-service education for all health personnel.

Funds from other sources, including federal monies, will be sought to construct the necessary supporting facilities, including area health science libraries and teaching centers, and to provide modern transportation and communications linkages between each of the centers and the Medical University.

Subsidies are proposed for minority and disadvantaged students; stipends for the training of nurse practitioners; and support of medical residents up to 20 percent of their total stipend.

As necessary funding becomes available, each core community hospital eventually would have the following components:

—An auditorium for large group presentations.

—Conference rooms for teaching and smaller meetings.

—Administrative and office space for the health educational activities.

—A modern area health sciences library with communication linkages to the Medical University library.

—An audiovisual center.

—Biocommunications and data processing units.

## FOURTH ANNUAL FAMILY PRACTICE REFRESHER COURSE

**February 19 - 25, 1973**

The Fourth Annual Family Practice Refresher Course presented by the Division of Continuing Education of the Medical University of South Carolina will be held February 19 - 25, 1973, at the Sheraton-Fort Sumter Hotel, Charleston, South Carolina.

The Faculty of the School of Medicine of the Medical University of South Carolina and guest speakers from out-of-state will present a review of the recent advances and applications of current practice methods in internal medicine, surgery, pediatrics, neurology, psychiatry, urology and otolaryngology. In addition to the lectures, two evening sessions are planned for demonstrations and tours of Medical University Hospital specialty units.

Registration is open now through February 1, 1973. Enrollment is limited to 75, and tuition is $140.00 payable in advance on or before February 1, 1973. A block of rooms has been reserved at the Sheraton-Fort Sumter Hotel at special convention rates. The Social Hour and Banquet on Wednesday evening is included in this fee. Wives are cordially invited.

A registration desk will be open from 6:30 to 8:30 p.m. Sunday evening, February 18, in the lobby of the Sheraton-Fort Sumter Hotel for the convenience of those participants wishing to complete their registration at that time. Final registration will be at the same place at 8:00 a.m. Monday, February 19.

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Please detach and return

### REGISTRATION

### FOURTH ANNUAL FAMILY PRACTICE REFRESHER COURSE

**February 19 - 25, 1973**

NAME_____ TELEPHONE NO._____

ADDRESS_____ ZIP CODE_____

_____ Enclosed is $140.00 tuition fee for Family Practice Refresher Course.

_____ Please send me hotel reservation card.

_____ I plan to attend Social Hour and Banquet Wednesday evening.

_____ My wife will also attend Social Hour and Banquet.

Please make check payable to: Division of Continuing Education, MUSC and mail to Dr. Vince Moseley, Director, Division of Continuing Education, Medical University of South Carolina, 80 Barre Street, Charleston, S. C., 29401.




# SOUTH CAROLINA REGIONAL MEDICAL PROGRAM

**VINCE MOSELEY, M.D.**
**Coordinator, South Carolina**

## S. C. REGIONAL MEDICAL PROGRAM AWARDS $112,100 IN CONTRACTS

The S. C. Regional Medical Program, located at the Medical University of S. C., has issued $112,100 in contracts with a number of agencies, institutions and organizations in the state for the purpose of helping SCRMP fulfill its objectives and goals.

In announcing the innovation of contractual agreements, Dr. Vince Moseley, SCRMP coordinator, said that they are different from the traditional grant funds in that SCRMP defines the desired outcome of the activity and then agencies or institutions are given the opportunity to bid on providing the services. This is in contrast to grant applications where the applicant defines the outcome.

Dr. Moseley stated that each contract entered into by SCRMP must specifically respond to a program objective set by SCRMP's Regional Advisory Group, an organization of 48 key S. C. health leaders and knowledgeable consumers.

According to Dr. Moseley, the primary purpose of the contracts is to enable feasibility or pilot studies which assist in more adequately defining areas of program activity. Each will be a one-time activity of limited duration (12 months maximum).

He said that funds for contracts are derived from monies available from other program components which cannot be accurately determined until late in the year (SCRMP's fiscal year ended August 31). Thus each year the amounts available for contracts and the types of activities supported will vary. The next opportunity for contracts should be in July 1973.

In addition to the 15 Contracts, SCRMP is currently supporting 30 projects and planning studies across the state in connection with its efforts involving health manpower development, primary health care delivery patterns, and regionalization of health facilities, manpower and other resources.

Contracts awarded were (shown are title, sponsor, director's name, brief summary and amount of award):

—TRAINING FOR OPERATING ROOM NURSES — Midlands Association of Operating Room Nurses, Dr. Donald H. Harwood, Columbia, will involve two statewide, eight-week operating room nurses' courses at Richland Memorial Hospital, Columbia for 15 registered nurses in each class ($7,000).

—ADVANCED EDUCATION FOR LICENSED PRACTICAL NURSES — Richland School Distrcit No. 1, Claude E. Kitchens, Columbia, Richland School District No. 1 will survey educational needs of LPN's in the Central Midlands District and develop a curriculum for an Advanced Course. ($10,000).

—EMERGENCY MEDICAL TECHNICIAN BASIC TRAINING — S. C. State Board of Health, Dr. D. H. Robinson, Columbia, this will provide teaching materials to enable Vocational Training Centers and Technical Education Centers to provide training programs for upgrading emergency medical technicians, ($8,100).

—EMERGENCY MEDICAL SERVICES PROVIDER CONFERENCE — Medical University of S. C., Dr. Lawrence Hanbeck, Department of Surgery at MUSC to conduct planning workshops to establish a cooperative

statewide action plan for comprehensive emergency medical service, ($2,500).

–STATE PLAN FOR EMERGENCY MEDICAL SERVICES – S. C. State Board of Health, Dr. D. H. Robinson, Columbia, the contractor will obtain the necessary information, advisory assistance or planning support and provide a plan for "Comprehensive Emergency Health Services in S. C.", ($10,000).

–PATIENT ORIGIN AND HOSPITAL UTILIZATION SURVEY – Research and Development Foundation (USC), Richard W. Furst, Columbia, to conduct a study for a "S. C. Hospital Patient Origin Survey" to determine the possibilities for a valid statewide collection and analysis of hospital-based services, ($5,950).

–R. N. CERTIFICATION THROUGH CONTINUING EDUCATION – S. C. Nurses Association, Ruth A. Nicholson, R.N., Columbia, to conduct a study to formulate certification of competency in nursing in the presence of new knowledge and changing patterns of patient care, ($10,000).

–CENTRAL PEE DEE ALLIED HEALTH CAREER PROGRAMS – Florence-Darlington TEC, William K. Temple, Florence, to conduct planning for a cooperative effort for improving and increasing effectiveness and efficiency of manpower training and health care in the northeast region of S. C., ($10,000).

–BIOENGINEERING SYMPOSIUM ON IMPLANT MATERIALS – Clemson University, Dr. Samuel F. Hulbert, Clemson, to assess present knowledge concerning the phenomena occurring at the interface between implant materials and body tissues and determine new approaches, ($5,000).

–HOSPITAL TRUSTEE EDUCATION PROGRAM – S. C. Hospital Association, William L. Yates, Columbia, to establish a program for Hospital Trustee Education, ($10,000).

–HOSPITAL DISCHARGE PLANNING – S. C. Hospital Association, William L. Yates, Columbia, to study and report on the level of development of patient discharge planning programs and activities in S. C., ($7,600).

–RETRAINING FOR MEDICAL LABORATORY PERSONNEL – S. C. Society for Medical Technology, Susan M. Cheatham, Columbia, to retain a broad spectrum of personnel including any and all levels of individuals who are currently involved in laboratory medium, ($10,000).

–CANCER REFERRAL CENTER – Greenville Hospital System, Jack A. Skarupa, Greenville, the contractor will develop a plan for a cancer treatment center in Greenville, S. C. to serve the upper S. C., ($3,000).

–YOUTH EDUCATION ON DRUG ABUSE – Medical University of S. C., Francis J. Hodge, Charleston, to develop a multidirectional program on Drug Abuse for teenagers at junior and high school level, public awareness, and teaching profession, ($8,271).

–HEALTH SCIENCE LIBRARY SERVICES – Medical University of S. C., W. A. Sawyer, Charleston, represents expansion of library services for health personnel in S. C. including a telecopy linkage between MUSC, Charleston and the National Library of Medicine, Washington, D. C., ($4679).

Charles R. Wyrosdick
Director of Communications



# Nose clear all knight

For upper respiratory allergies and infections including the common cold, Dimetapp Extentabs® effectively relieve the stuffiness, drip and congestion all night and all day long on just one Extentab every 12 hours. For most patients drowsiness or overstimulation is unlikely.

**Dimetapp® Extentabs**

Dimetane® (brompheniramine maleate), 12 mg. phenylephrine HCl, 15 mg. phenylpropanolamine HCl, 15 mg

INDICATIONS: Dimetapp Extentabs are indicated for symptomatic relief of allergic manifestations of upper respiratory illnesses, such as the common cold, seasonal allergies, sinusitis, rhinitis, conjunctivitis and otitis. In these cases it quickly reduces inflammatory edema, nasal congestion and excessive upper respiratory secretions, thereby affording relief from nasal stuffiness and postnasal drip.

CONTRAINDICATIONS: Hypersensitivity to antihistamines of the same chemical class. Dimetapp Extentabs are contraindicated during pregnancy and in children under 12 years of age. Because of its drying and thickening effect on the lower respiratory secretions, Dimetapp is not recommended in the treatment of bronchial asthma. Also, Dimetapp Extentabs are contraindicated in concurrent MAO inhibitor therapy.

WARNINGS: *Use in children:* In infants and children particularly, antihistamines in overdosage may produce convulsions and death.

PRECAUTIONS: Administer with care to patients with cardiac or peripheral vascular diseases or hypertension. Until the patient's response has been determined, he should be cautioned against engaging in operations requiring alertness such as driving an automobile, operating machinery, etc. Patients receiving antihistamines should be warned against possible additive effects with CNS depressants such as alcohol, hypnotics, sedatives, tranquilizers, etc.

ADVERSE REACTIONS: Adverse reactions to Dimetapp Extentabs may include hypersensitivity reactions such as rash, urticaria, leukopenia, agranulocytosis and thrombocytopenia; drowsiness, lassitude, giddiness, dryness of the mucous membranes, tightness of the chest, thickening of bronchial secretions, urinary frequency and dysuria, palpitation, hypotension/hypertension, headache, faintness, dizziness, tinnitus, incoordination, visual disturbances, mydriasis, CNS-depressant and (less often) stimulant effect, anorexia, nausea, vomiting, diarrhea, constipation, and epigastric distress.

HOW SUPPLIED: Light blue Extentabs in bottles of 100 and 500.

A·H·ROBINS

A. H. Robins Company
Richmond, Va. 23220


for today's pain...
memory of yesterday's pain...
apprehension over tomorrow's pain–

A·H·ROBINS

For the patient with a terminal illness, PAIN past, present, and future can dominate his thoughts until it becomes almost an obsession. The more he is aware of the pain he is now experiencing, the more difficult it is to erase his memory of yesterday's pain, and to allay his fearful anticipation of tomorrow's pain. Surely the last thing this patient needs is an analgesic containing caffeine to stimulate the senses and heighten pain awareness. A far more logical choice is Phenaphen with Codeine. The sensible formula provides ¼ grain of phenobarbital to take the nervous "edge" off, so the rest of the formula can help control the pain more effectively. Don't you agree, Doctor, that psychic distress is an important factor in most of your terminal and long-term convalescent patients?

**the analgesic formula that calms instead of caffeinates**

# Phenaphen® with Codeine

Phenaphen with Codeine No. 2, 3, or 4 **contains:** Phenobarbital (¼ gr.), 16.2 mg. (warning: may be habit forming); Aspirin (2½ gr.), 162.0 mg.; Phenacetin (3 gr.), 194.0 mg.; Codeine phosphate, ¼ gr. (No. 2), ½ gr. (No. 3) or 1 gr. (No. 4) (warning: may be habit forming).

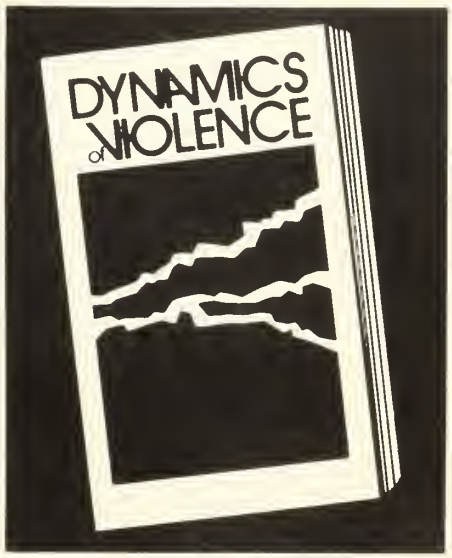
**Indications:** Provides relief in severer grades of pain, on low codeine dosage, with minimal possibility of side effects. Its use frequently makes unnecessary the use of addicting narcotics. **Contraindications:** Hypersensitivity to any of the components. **Precautions:** As with all phenacetin-containing products, excessive or prolonged use should be avoided. **Side effects:** Side effects are uncommon although nausea, constipation and drowsiness may occur. **Dosage:** Phenaphen No. 2 and No. 3—1 or 2 capsules every 3 to 4 hours as needed; Phenaphen No. 4—1 capsule every 3 to 4 hours as needed. For further details see product literature.

(III) Phenaphen with Codeine is now classified in Schedule III, Controlled Substances Act of 1970. Available on written or oral prescription and may be refilled 5 times within 6 months, unless restricted by state law.

A. H. Robins Company, Richmond, Virginia

# DYNAMICS of VIOLENCE

**Brief, brilliant studies drawn from a close, often painful scrutiny of human violence**




Jan Fawcett's superbly edited book takes you on an exploration into this age of violence. Nightmarish cases from contemporary history...war, bombings, assassination, mass murder, rape, arson, riots...are the backdrops against which eminent psychiatrists discuss violence and aggression.

Immensely revealing and readable, Dynamics of Violence examines violent aggression in terms of historical and social dimensions in our national history, clinical case studies of violent individuals, and clinical research investigations.

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SMJ 11/72

Send me _____ copy(s) of Dynamics of Violence priced at $3.95. (OP-240.) My payment of $ _____ is enclosed.

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Address _____

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# When you select this familiar antibiotic for IV infusion you have available a broad dosage range that hospitalized patients may need.

Intravenous Lincocin (lincomycin hydrochloride, Upjohn), with its 1.2 to 8 grams/day dosage range, covers many serious and even life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. Lincocin IV therefore can be as useful in your hospitalized patients as its IM use has proved to be in your office patients. As with all antibiotics, *in vitro* susceptibility studies should be performed.

**1.2 to 8 grams/day IV dosage range:** Most hospitalized patients with uncomplicated pneumonias respond satisfactorily to 1.2 to 1.8 grams/day of Lincocin IV. These doses may have to be increased for more serious infections. In life-threatening situations as much as 8 grams/day has been administered intravenously to adults.

In usual IV doses, Lincocin (lincomycin hydrochloride, Upjohn) should be diluted in 250 ml or more of normal saline solution or 5% glucose in water. But when 4 grams or more per day is given, Lincocin should be diluted in no less than 500 ml of either solution, and the rate of administration should not exceed 100 ml/hour. Too rapid intravenous administration of doses exceeding 4 grams may result in hypotension or, in rare instances, cardiopulmonary arrest.

**Effective gram-positive antibiotic:** Lincocin IV is effective in respiratory tract, skin and soft-tissue, and bone

fections caused by susceptible strains
pneumococci, streptococci, and
aphylococci, including penicillin-
sistant strains. Staphylococcal strains
sistant to Lincocin (lincomycin
drochloride, Upjohn) have been
covered. Before initiating therapy,
lture and susceptibility studies should
performed. Lincocin has proved
luable in treating patients hyper-
nsitive to penicillin or cephalosporins,
ce Lincocin does not share
tigenicity with these compounds.
owever, hypersensitivity reactions
ve been reported, some of these in
tients known to be sensitive to
nicillin.

**ell tolerated at infusion site:** Lincocin
ravenous infusions have not
oduced local irritation or phlebitis,
en given as recommended. Lincocin
usually well tolerated in patients who
hypersensitive to other drugs.
vertheless, Lincocin should be used
utiously in patients with asthma or
nificant allergies.

patients with impaired renal function,
recommended dose of Lincocin
ould be reduced to 25—30% of
dose for patients with normal
lney function. Its safety in
egnant patients and in infants
s than one month of age has
been established.

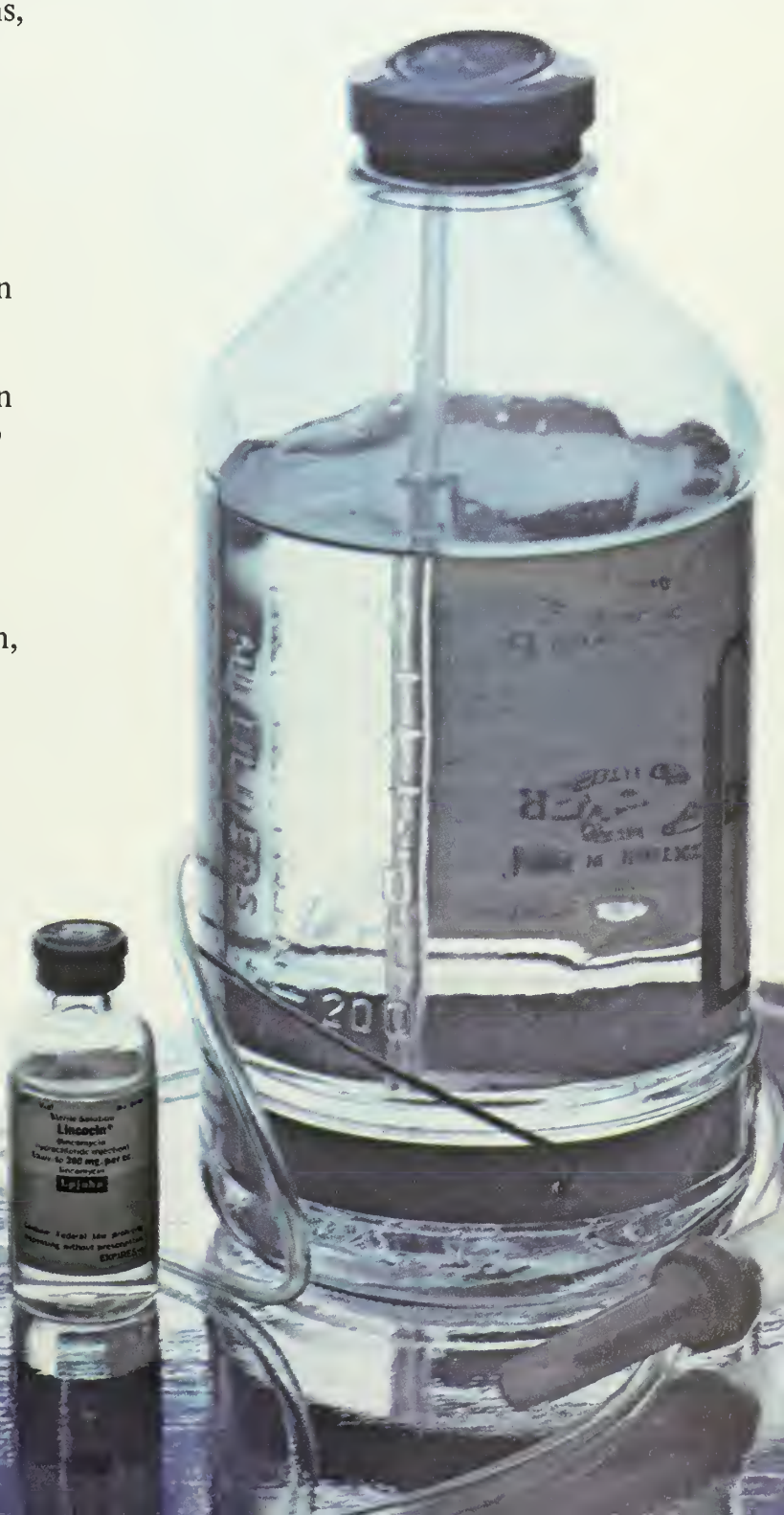
**ncocin may be used with other
timicrobial agents:** Since Lincocin
table over a wide pH range, it is
table for incorporation in
ravenous infusions; it also may be
administered concomitantly with other
antimicrobial agents when indicated.
However, Lincocin should not be used
with erythromycin, as *in vitro* antagonism
has been reported.

# Lincocin®

Sterile Solution (300 mg per ml)

## (lincomycin hydrochloride, Upjohn)

For further prescribing information, please see following page.




72 The Upjohn Company



Sterile Solution (300 mg. per ml.)

# Lincocin®

# (lincomycin hydrochloride, Upjohn)

## Up to 8 grams per day by IV infusion for hospitalized patients with life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. As with all antibiotics, *in vitro* susceptibility studies should be performed.

| Each preparation contains: | Lincomycin hydrochloride monohydrate equivalent to lincomycin base |
|---|---|
| 250 mg Pediatric Capsule | 250 mg |
| 500 mg Capsule | 500 mg |
| *Sterile Solution per 1 ml | 300 mg |
| Syrup per 5 ml | 250 mg |

*Contains also: Benzyl Alcohol 9 mg; and, Water for Injection—q.s.

Lincocin (lincomycin hydrochloride) is indicated in infections due to susceptible strains of staphylococci, pneumococci, and streptococci. *In vitro* susceptibility studies should be performed. Cross resistance has not been demonstrated with penicillin, ampicillin, cephalosporins, chloramphenicol or the tetracyclines. Some cross resistance with erythromycin has been reported. Studies indicate that Lincocin does not share antigenicity with penicillin compounds.

CONTRAINDICATIONS: History of prior hypersensitivity to lincomycin or clindamycin. Not indicated in the treatment of viral or minor bacterial infections.

WARNINGS: *CASES OF SEVERE AND PERSISTENT DIARRHEA HAVE BEEN REPORTED AND HAVE AT TIMES NECESSITATED DISCONTINUANCE OF THE DRUG. THIS DIARRHEA HAS BEEN OCCASIONALLY ASSOCIATED WITH BLOOD AND MUCUS IN THE STOOLS AND HAS AT TIMES RESULTED IN AN ACUTE COLITIS. THIS SIDE EFFECT USUALLY HAS BEEN ASSOCIATED WITH THE ORAL DOSAGE FORM BUT OCCASIONALLY HAS BEEN REPORTED FOLLOWING PARENTERAL THERAPY.* A careful inquiry should be made concerning previous sensitivities to drugs or other allergens. Safety for use in pregnancy has not been established and Lincocin (lincomycin hydrochloride) is not indicated in the newborn. Reduce dose 25 to 30% in patients with severe impairment of renal function.

PRECAUTIONS: Like any drug, Lincocin should be used with caution in patients having a history of asthma or significant allergies. Overgrowth of nonsusceptible organisms, particularly yeasts, may occur and require appropriate measures. Patients with pre-existing monilial infections requiring Lincocin therapy should be given concomitant antimonilial treatment. During prolonged Lincocin therapy, periodic liver function studies and blood counts should be performed. Not recommended (inadequate data) in patients with pre-existing liver disease unless special clinical circumstances indicate. Continue treatment of $\beta$-hemolytic streptococci infections for 10 days to diminish likelihood of rheumatic fever or glomerulonephritis.

ADVERSE REACTIONS: *Gastrointestinal*—Glossitis, stomatitis, nausea, vomiting. Persistent diarrhea, enterocolitis, and pruritus ani. *Hemopoietic*—Neutropenia, leukopenia, agranulocytosis, and thrombocytopenic purpura have been reported. *Hypersensitivity reactions*—Hypersensitivity reactions such as angioneurotic edema, serum sickness, and anaphylaxis have been reported, sometimes in patients sensitive to penicillin. If allergic reaction occurs, discontinue drug. Have epinephrine, corticosteroids, and antihistamines available for emergency treatmen *Skin and mucous membranes*—Skin rashe urticaria, vaginitis, and rare instances of e foliative and vesiculobullous dermatitis ha been reported. *Liver*—Although no direct r lationship to liver dysfunction is establishe jaundice and abnormal liver function tes (particularly serum transaminase) have bee observed in a few instances. *Cardiovascul*—Instances of hypotension following pare teral administration have been reporte particularly after too rapid IV administr tion. Rare instances of cardiopulmonary a rest have been reported after too rapid I administration. If 4.0 grams or more admi istered IV, dilute in 500 ml of fluid ar administer no faster than 100 ml per hou *Special senses*—Tinnitus and vertigo ha been reported occasionally. *Local reactio*—Excellent local tolerance demonstrated intramuscularly administered Lincoc (lincomycin hydrochloride). Reports of pa following injection have been infrequer Intravenous administration of Lincocin 250 to 500 ml of 5% glucose in distill water or normal saline has produced local irritation or phlebitis.

HOW SUPPLIED: *250 mg* and *500 m* Capsules—bottles of 24 and 100. *Steri Solution, 300 mg per ml*—2 and 10 ml via and 2 ml syringe. *Syrup, 250 mg per 5 m*—60 ml and pint bottles.

*For additional product information, consu the package insert or see your Upjoh representative.*

MED B-6-S (KZL-7) JA71-163

The Upjohn Company
Kalamazoo, Michigan 49001

Upjohn

**You name it, I've got it.**
**Self-diagnosis is not always**
**wise, this humorist found**

"I like work; it fascinates me. I can sit and look at it for hours." With the possible exception of that one remark, the gentle wit of British novelist and playwright Jerome K. Jerome (1859-1927) is today all but forgotten. It's a pity, because he had a delightful way of telling a story. Take, for example, the excerpt from his Three Men in a Boat (1889) . . .

It is a most extraordinary thing, but I never read a patent medicine advertisement without being impelled to the conclusion that I am suffering from the particular disease therein dealt with in its most virulent form. The diagnosis seems in every case to correspond exactly with all the sensations that I have ever felt.

I remember going to the British Museum one day to read up the treatment for some slight ailment of which I had a touch—hay fever, I fancy it was. I got down the book, and read all I came to read; and then, in an unthinking moment, I idly turned the leaves, and began to indolently study diseases, generally. I forget which was the first distemper I plunged into—some fearful, devastating scourge, I know—and, before I had glanced half down the list of "premonitory symptoms," it was borne in upon me that I had fairly got it.

I sat for a while frozen with horror; and then in the listlessness of despair, I again turned over the pages. I came to typhoid fever—read the symptoms—discovered that I had typhoid fever, must have had it for months without knowing it—wondered what else I had got; turned up St. Vitus's Dance—found, as I expected, that I had that too—began to get interested in my case, and determined to sift it to the bottom, and so started alphabetically—read up ague, and learnt that I was sickening for it, and that the acute stage would commence in about another fortnight. Bright's disease, I was relieved to find, I had only in a modified form, and, so far as that was concerned, I might live for years. Cholera I had, with severe complications; and diphtheria I seemed to have been born with. I plodded conscientiously through the twenty-six letters, and the only malady I could conclude I had not got was housemaid's knee.

I felt rather hurt about this at first; it seemed somehow to be a sort of slight. Why hadn't I got housemaid's knee? Why this invidious reservation? After a while, however, less grasping feelings prevailed. I reflected that I had every other known malady in the pharmacology, and I grew less selfish, and determined to do without housemaid's knee. Gout, in its most malignant stage, it would appear, had seized me without my being aware of it; and zymosis I had evidently been suffering from boyhood. There were no more diseases after zymosis, so I concluded there was nothing else the matter with me.

I sat and pondered. I thought what an interesting case I must be from a medical point of view, what an acquisition I should be to a class! Students would have no need to "walk the hospitals," if they had me. I was a hospital in myself. All they need do would be to walk round me, and, after that, take their diploma.

Then I wondered how long I had to live. I tried to examine myself. I felt my pulse. I could not at first feel any pulse at all. Then, all of a sudden, it seemed to start off. I pulled out my watch and timed it. I made it a hundred and forty-seven to the minute. I tried to feel my heart. I could not feel my heart. It had stopped beating. I have since been induced to come to the opinion that it must have been there all the time, and must have been beating, but I cannot account for it. I patted myself all over my front, from what I call my waist to my head, and I went a bit round each side, and a little way up the back. But I could not feel or hear anything. I tried to look at my tongue. I stuck it out as far as ever it would

go, and I shut one eye, and tried to examine it with the other. I could see the tip, and the only thing that I could gain from that was to feel more certain than before that I had scarlet fever.

I had walked into that reading-room a happy, healthy man. I crawled out a decrepit wreck.

I went to my medical man. He is an old chum of mine, and feels my pulse, and looks at my tongue, and talks about the weather, all for nothing, when I fancy I'm ill; so I thought I would do him a good turn by going to him now. "What a doctor wants," I said, "is practice. He shall have me. He will get more practice out of me than out of seventeen hundred of your ordinary, commonplace patients, with only one or two diseases each." So I went straight up and saw him, and he said:

"Well, what's the matter with you?"

I said: "I will not take up your time, dear boy, with telling you what is the matter with me. Life is brief, and you might pass away before I had finished. But I will tell you what is *not* the matter with me. I have not got housemaid's knee. Why I have not got housemaid's knee, I cannot tell you; but the fact remains that I have not got it. Everything else, however, I *have* got."

And I told him how I came to discover it all.

Then he opened me and looked down me, and clutched hold of my wrist, and then he hit me over the chest when I wasn't expecting it—a cowardly thing to do, I call it—and immediately afterwards buffed me with the side of his head. After that, he sat down and wrote out a prescription, and folded it up and gave it me, and I put it in my pocket and went out.

I did not open it. I took it to the nearest chemist's and handed it in. The man read it, and then handed it back.

He said he didn't keep it.

I said: "You are a chemist?"

He said: "I am a chemist. If I was a co-operative stores and family hotel combined, I might be able to oblige you. Being only a chemist hampers me."

I read the prescription. It ran:

1 lb. beefsteak, with
1 pt. bitter beer every 6 hours.
1 ten-mile walk every morning.
1 bed at 11 sharp every night.
And don't stuff up your head with things you don't understand.

I followed the directions, with the happy result—speaking for myself—that my life was preserved, and is still going on.

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## POSTGRADUATE COURSE IN PEDIATRICS

The 22nd Annual Postgraduate Course in Pediatrics of The University of Texas Medical Branch will be held in Galveston, Texas, March 15 and 16, 1973. The course will emphasize "Problems of Office Pediatrics" with guest lecturers Victor C. Vaughan, III, M. D. and John B. Reinhart, M. D.

This program is acceptable for 12 prescribed hours by the American Academy of General Practice and registration fee will be $75.00. Further information will be furnished by Lillian H. Lockhart, M. D., Chairman, Pediatric Postgraduate Committee, The University of Texas Medical Branch, Galveston, Texas 77550.

## DEATHS

### T. H. HOUCK, SR.

Dr. Thaddus Hawkins Houck, 82, of Florence died on Tuesday, August 29 in a local hospital after a lengthy illness. He was a graduate of the Medical University of South Carolina, did special studies in New York and practiced in Timmonsville for a number of years before beginning practice in Florence in 1928. Dr. Houck was a member of the Florence County Medical Association and a member of the staff of McLeod Memorial Hospital.

### W. C. R. TURNBULL

Dr. William Charles Robert Turnbull, 95, of Graniteville died on Friday, September 22. A retired general practitioner, Dr. Turnbull had served in the South Carolina House of Representatives from Aiken County and was a member of the Aiken County Medical Association.

### POSTGRADUATE COURSE ON "THE SMALL INTESTINE AND COLON"

**February 1, 2, 3, 1973**

Third annual course in Gastroenterology presented by the Graduate Medical Education Department of the Alton Ochsner Medical Foundation with distinguished faculty of visiting professors, local area guests and the staff of the Ochsner Medical Center.

Consideration is given this year to disease problems of the small bowel and colon with approach from the standpoint of newer developments in the pathophysiologic processes of these conditions.

Informality is the rule. Adequate time for exchange of ideas and problems and care examples enliven the curriculum.

Inquiries concerning this course should be directed to:
William H. McFarland, Administrator
Alton Ochsner Medical Foundation
Graduate Medical Education Department
1514 Jefferson Highway
New Orleans, Louisiana 70121

## FROM THE AMA NEWSLETTER

**PHYSICIANS WHO ARE UNABLE TO SUBSTANTIATE** dates of hospital visits may be subjected to retroactive denial of Medicare benefits, AMA's Division of Medical Practice warns. Medicare requires that physicians be able to provide documentary evidence of hospital visits. In recent isolated instances, physicians have been directed to refund Medicare payments made more than a year ago. In each case the physician had neglected to make an entry on the hospital record or to take other steps considered as acceptable proof by the Social Security Administration's Bureau of Health Insurance.

**TO GUIDE PHYSICIANS**, the AMA has developed an informational statement based on Medicare rules and verified by the BHI. It reads, in part: "Physicians submitting claims for hospital visits to Medicare patients should make sure that there is an entry on the hospital record for each patient substantiating the date of each visit. . .A hospital rule that physicians are to visit their patients daily is not considered sufficient evidence that such visits were in fact made. Acceptable evidence is the physician's progress notes on the hospital record for the day of the visit, or nurse's notes indicating that he visited the patient on that day. The patient's statement that a visit was made is acceptable only if taken within a reasonable time after the visit; entries in the physician's own office records are not considered as strong evidence as the hospital record."

**HEW WOULD BE AUTHORIZED TO DISCLOSE PUBLICLY** the names of physicians, hospitals and other providers who abuse the Medicare program under proposed regulations issued by HEW. Public disclosure would be applicable to those providers deemed to have followed a pattern of providing excessive services and also to those federally convicted of submitting fraudulent Medicare claims. Some


# Rondomycin
## (methacycline HCl)

**CONTRAINDICATIONS:** Hypersensitivity to any of the tetracyclines.
**WARNINGS**: Tetracycline usage during tooth development (last half of pregnancy to years) may cause permanent tooth discoloration (yellow-gray-brown), which is common during long-term use but has occurred after repeated short-term cou Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this group unless other drugs are not likely to be effective or are contraindic Usage in pregnancy**. (See above **WARNINGS** about use during tooth developm
Animal studies indicate that tetracyclines cross the placenta and can be toxic t developing fetus (often related to retardation of skeletal development). Embryoto has also been noted in animals treated early in pregnancy.
**Usage in newborns, infants, and children**. (See above **WARNINGS** about use d tooth development.)
All tetracyclines form a stable calcium complex in any bone-forming tissue. A dec in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg ev hours was reversible when drug was discontinued.
Tetracyclines are present in milk of lactating women taking tetracyclines.
To avoid excess systemic accumulation and liver toxicity in patients with impaired function, reduce usual total dosage and, if therapy is prolonged, consider serum determinations of drug. The antianabolic action of tetracyclines may increase BUN not a problem in normal renal function, in patients with significantly impaired func higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acid
Photosensitivity manifested by exaggerated sunburn reaction has occurred tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should advised, and treatment should be discontinued at first evidence of skin eryth
**PRECAUTIONS**: If superinfection occurs due to overgrowth of nonsusceptible organi including fungi, discontinue antibiotic and start appropriate therapy.
In venereal diseases, when coexistent syphilis is suspected, perform darkfield e nation before therapy, and serologically test for syphilis monthly for at least four mo
Tetracyclines have been shown to depress plasma prothrombin activity; patien anticoagulant therapy may require downward adjustment of their anticoagulant do
In long-term therapy, perform periodic organ system evaluations (including b renal, hepatic).
Treat all Group A beta-hemolytic streptococcal infections for at least 10
Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, giving tetracycline with penicillin.
**ADVERSE REACTIONS**: **Gastrointestinal** (oral and parenteral forms): anorexia, na vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with mo overgrowth) in the anogenital region.
**Skin**: maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). tosensitivity is discussed above (See **WARNINGS**).
**Renal toxicity**: rise in BUN, apparently dose related (See **WARNINGS**)
**Hypersensitivity**: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid pur pericarditis, exacerbation of systemic lupus erythematosus.
Bulging fontanels, reported in young infants after full therapeutic dosage, have d peared rapidly when drug was discontinued.
**Blood**: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia
Over prolonged periods, tetracyclines have been reported to produce brown- microscopic discoloration of thyroid glands; no abnormalities of thyroid function st are known to occur.
**USUAL DOSAGE**: **Adults**—600 mg daily, divided into two or four equally spaced d More severe infections: an initial dose of 300 mg followed by 150 mg every six hou 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, "Rondomycin" (methacycline HCl) may be used for treating both male females in the following clinical dosage schedule: 900 mg initially, followed by 30 q.i.d. for a total of 5.4 grams.
For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 g of "Rondomycin" (methacycline HCl) in equally divided doses over a period of 10-15 should be given. Close follow-up, including laboratory tests, is recommended.
Eaton Agent pneumonia: 900 mg daily for six days.
**Children**—3 to 6 mg/lb/day divided into two to four equally spaced doses.
Therapy should be continued for at least 24-48 hours after symptoms and fever subsided.
**Concomitant therapy**: Antacids containing aluminum, calcium or magnesium i absorption and are contraindicated. Food and some dairy products also interfere drug one hour before or two hours after meals. Pediatric oral dosage forms should n given with milk formulas and should be given at least one hour prior to fee
In patients with renal impairment (see **WARNINGS**), total dosage should be decr by reducing recommended individual doses or by extending time intervals bet doses.
In streptococcal infections, a therapeutic dose should be given for at least 10
**SUPPLIED**: "Rondomycin" (methacycline HCl): 150 mg and 300 mg capsules; syrup taining 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev

WALLACE PHARMACEUTICALS
CRANBURY, NEW JERSEY 08512



**When the focus is on bronchitis due to susceptible strains of *H. influenzae* and pneumococci***

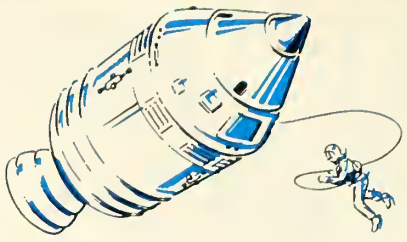
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## [methacycline HCl]

**Delivers from the very first dose:**

**dies show that after the first dose serum levels rapidly rise above minimum *in vitro* inhibitory concentrations**

*Since many strains are known to be resistant, routine sensitivity testing is recommended.



*Man in space, now fait accompli, re-emphasizes the importance of Uro-Phosphate therapy. Research into the effect of space travel on the astronaut reveals that weightlessness causes loss of bone calcium. As the bones are required to bear less and less of the weight of the body they lose calcium, increasing the calcium content of the urine. When physical activity is reduced, the acidity of the urine should be adjusted to keep increased calcium in solution . . . . a prophylaxis to prevent kidney or bladder calculi.*

# Uro-Phosphate®

*NOW A SUGAR-COATED TABLET*

*Each tablet contains:* METHENAMINE, *300 mg.;* SODIUM ACID PHOSPHATE, *500 mg.*

Uro-Phosphate gives comfort and protection when inactivity causes discomfort in the urinary function. It keeps calcium in solution, preventing calculi; it maintains clear, acid, sterile urine; it encourages complete voiding and lessens frequency when residual urine is present.

Uro-Phosphate contains sodium acid phosphate, a natural urinary acidifier. This component is fortified with methenamine which is inert until it reaches the acid urinary bladder. In this environment it releases a mild antiseptic keeping the urine sterile.

Uro-Phosphate is safe for continuous use. There are no contra-indications other than acidosis. It can be given in sufficient amount to keep the urine clear, acid and sterile. A heavy sugar coating protects its potency.

**Dosage:**

*For protection of the inactive patient 1 or 2 tablets every 4 to 6 hours is usually sufficient to keep the urine clear, acid and sterile.*

*2 tablets on retiring will keep residual urine acid and sterile, contributing to comfort and rest.*

*A clinical supply will be sent to physicians and hospitals on request.*

WILLIAM P. POYTHRESS & COMPANY, INC., RICHMOND, VIRGINIA 23217

*Manufacturers of Ethical Pharmaceuticals*

consumer groups who have been lobbying for the public disclosure regulations also had demanded that HEW identify any physician receiving more than $25,000 annually in Medicare payments, but HEW did not include such a provision in its proposed regulations. Medicare carriers would be required to conduct "appropriate professional consultation" in those cases where it appears that excessive services have been rendered.

## OPINION EVIDENCE OF CHIROPRACTOR HELD INADMISSIBLE

It was improper to permit a chiropractor to give an opinion as to whether an automobile accident caused certain medical conditions in a patient and as to the permanency of the patient's injuries, according to a North Carolina appellate court.

After the patient was injured in an automobile accident, suit was brought against the driver of the other vehicle. At the trial, a chiropractor was qualified as an expert in the field of chiropractic. He gave testimony that the patient's disability could have been caused by the automobile accident.

He gave further testimony regarding the narrowing of the patient's vertebrae. This testimony bore upon the issue of future disability of the patient. The jury returned a verdict for the patient.

In setting aside that verdict and granting a new trial, the appellate court held that the state statutes carefully define the practice of chiropractic. The court noted that the practice is limited to a special field and that court testimony by chiropractors is limited to that field. The court felt that, in this case the chiropractor testified in an area far beyond that of his expertise.—*Allen v. Hinson,* 183 S.E.2d 852 (N.C.Ct. of App., Oct. 20, 1971)

## INFORMED CONSENT RULE OVERTURNED IN CALIFORNIA

A recent action of the California Supreme Court, in effect, expunged a rule on informed consent promulgated by a California appellate court.

In *Dow v. Permanente Medical Group,* 90 Cal. Rptr. 747 (Cal. 1970), the appellate court set forth an unusual rule regarding informed consent. The court ruled that a patient, in order to recover under the theory that his informed consent had not been obtained, must prove that the physician willfully, and without good medical reason, withheld material information.

Subsequent to this decision, the parties settled the lawsuit. The court's decision was then appealed to the California Supreme Court.

Despite the fact that the case had been settled, the California Supreme Court took jurisdiction of the appeal. The court then dismissed the appeal.

Under the rules of the State of California, this action of the state supreme court expunged the rule enunciated by the appellate court. The *Dow* decision, therefore, cannot be cited as authority in any subsequent lawsuits.

*Editor's Note:* The *Dow* decision was reported in THE CITATION, Vol. 22, No. 9, p. 129.

## STANDARD OF CARE FOR SPECIALISTS

In order to recover damages for malpractice by a specialist, a patient must prove that the specialist failed to meet the standard of care required of physicians in the same specialty, the Arizona Supreme Court ruled.

In an action for malpractice, counsel for a patient called as a witness a neurosurgeon who practiced in another state, intending to show that the physician being sued had not followed the standard of practice for physicians in his specialty. The trial court ruled that the neurosurgeon's testimony was not admissible because he was not qualified by personal experience to testify as to the standard of practice for the community.

The matter was presented by special action to the state supreme court, where the primary question was whether the standard of care required for a medical specialty was to be judged by the standards for a particular local-

ity or by general standards for the specialty. The court pointed out that in Arizona the rule for physicians and surgeons had wavered between the standard in the community where the physician being sued practiced and the standard in a similar community.

The American Law Institute takes the position that for general practitioners the standard should be that of similar communities. However, an exception is recognized for physicians representing that they possess greater skill in the profession. The court said a specialist in a branch of medicine comes under the exception and that he should be judged by a standard based on the skill and knowledge common to other specialists.

The court declined to change the rule with regard to general practitioners, holding that the rule for them should be the same or similar community test. With regard to a specialist, however, the court held that in order for a patient to recover in a malpractice case he must establish that a witness had knowledge and familiarity with the standard of care and treatment commonly practiced by physicians engaged in the same type of specialty as the physician being sued.—*Kronke v. Danielson*, Docket No. 10778 (Ariz.Sup.Ct., July 13, 1972)

## EXAMINATION OF CHIROPRACTORS

A statute permitting physicians, surgeons, osteopaths, and podiatrists applying for admission to practice to pass an examination in the basic sciences administered by their respective national boards in lieu of an examination administered by the state did not discriminate against the chiropractic profession, which did not have a national board, the Colorado Supreme Court ruled.

The Colorado Chiropractic Association brought action for a declaratory judgment that the statute in question was unconstitutional. The trial court declared the statute to be unconstitutional in that it constituted an arbitrary discrimination against the chiropractic profession and violated the equal protection clauses of the state and national constitutions.

On appeal, the higher court reversed the lower court's decision, holding that the statute was not shown to be unconstitutional beyond a reasonable doubt. The court based its reversal on the fact that no evidence was presented to establish that the National Chiropractic Examination was equivalent to the basic science examination administered by the state or to that conducted by the national boards of medical, osteopathic, and podiatry examiners.—*Colorado Chiropractic Association v. Heuser*, 494 P.2d 833 (Colo.Sup.Ct., March 13, 1972)

# A Blue Shield Report

## EACH PHYSICIAN TO RECEIVE FEE PROFILE

ue Shield in November is sending to each physician in South Carolina a copy of the profile of his charges. enerated by computer from all the charges listed by a doctor on all of his Blue Shield claims in 1971, the ofile matches procedure codes with the doctor's usual charge for each procedure. Because a profile could distorted by a doctor's claims with erroneous procedure codes, Blue Shield workshops for physicians' fice assistants in October and November are devoted to helping every doctor's office with correct coding.

## NEW FORM CUTS PAPER VOLUME TO ONE-FIFTH

e new Blue Shield claim form for use by physicians, approved by the Insurance Committee of the uncil of the South Carolina Medical Association, is much simplified from physicians service reports used the past. The new form is easier for physicians to use and enables Blue Shield to pay benefits more ickly. Moreover, it will accommodate a single filing for as many as five separate services to a patient. rlier forms necessitated five separate claim filings in such cases.

## BLUE CROSS TO PAY HIGHER MEDICARE DEDUCTIBLE AND CO-INSURANCE

increase in Part A Medicare deductible and co-insurance has been announced by the U. S. Department Health, Education and Welfare. For the more than 12,000 South Carolinians with Blue Cross-65, Blue oss will pay the higher charges to patients, without any increase in the premium rate.

## COMMISSIONER APPROVED MERGER OF PLANS

uth Carolina's Chief Insurance Commissioner John H. Lindsay has approved merger of Blue Shield and ue Cross into a single corporation, finding after a public hearing that savings in overhead costs would ult.

## HEALTH RESPONSIBILITY PROGRAM BEGUN IN SOUTH CAROLINA

ue Cross in South Carolina has begun an informational program titled "Health Responsibility" to help ntify levels of usage of hospital services by Blue Cross and Blue Shield subscribers. Hospital staffs and ministrators will receive comparative analyses of utilization of services by each hospital in the state, cording to diagnosis and principal service. The information will be broken down by age and sex of tients.

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# Iron therapy for anemia is almost as old as history itself



Celsus's empirical use of iron

Aulus Cornelius Celsus recommended an unusual form of iron therapy for the treatment of enlarged spleens—the oral administration of water that blacksmiths had used for dousing white-hot iron.

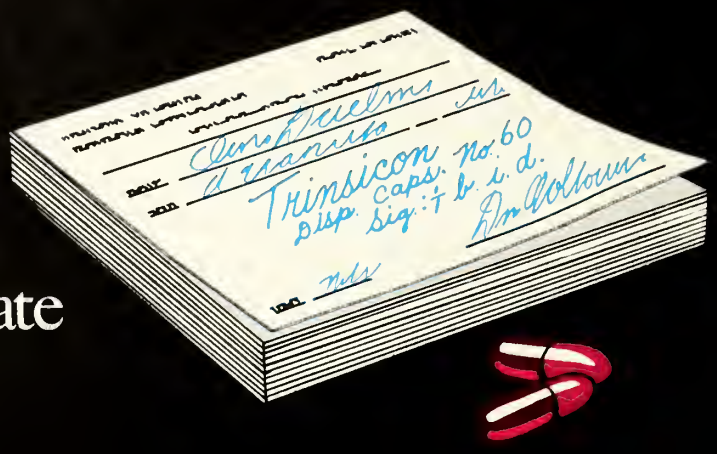
# For more modern anemia therapy

# Trinsicon®

## Hematinic Concentrate with Intrinsic Factor

(See reverse side for prescribing information.)

# Trinsicon®
## Hematinic Concentrate with Intrinsic Factor




**Description:** Each Pulvule® contains—

| | |
|---|---|
| Special Liver-Stomach Concentrate, Lilly (containing Intrinsic Factor) | 240 mg. |
| Cobalamin Concentrate, N.F., equivalent to Cobalamin | 7.5 mcg. |
| Iron, Elemental (as Ferrous Fumarate) | 110 mg. |
| Ascorbic Acid (Vitamin C) | 75 mg. |
| Folic Acid | 0.5 mg. |

(The total vitamin $B_{12}$ activity in the Special Liver-Stomach Concentrate, Lilly, and the Cobalamin Concentrate, N.F., is 15 micrograms.)

**Indications:** Trinsicon is a multifactor preparation effective in the treatment of anemias that respond to oral hematinics, including pernicious anemia and other megaloblastic anemias and also iron-deficiency anemia. Therapeutic quantities of hematopoietic factors that are known to be important are present in the recommended daily dose.

*Vitamin $B_{12}$ with Intrinsic Factor*—When secretion of intrinsic factor in gastric juice is inadequate or absent (e.g., in Addisonian pernicious anemia or after gastrectomy), vitamin $B_{12}$ in physiological doses is absorbed poorly, if at all. The resulting deficiency of vitamin $B_{12}$ leads to the clinical manifestations of pernicious anemia. Similar megaloblastic anemias may develop in fish tapeworm (*Diphyllobothrium latum*) infection or after a surgically created small-bowel blind loop; in these situations, treatment requires freeing the host of the parasites or bacteria which appear to compete for the available vitamin $B_{12}$. Strict vegetarianism and malabsorption syndromes may also lead to vitamin $B_{12}$ deficiency. In the latter case, parenteral therapy, or oral therapy with so-called massive doses of vitamin $B_{12}$, may be necessary for adequate treatment of the patient.

Potency of intrinsic factor concentrates is determined physiologically, i.e., by their use in patients with pernicious anemia. The liver-stomach concentrate with intrinsic factor and the vitamin $B_{12}$ contained in two Pulvules Trinsicon provide 1½ times the minimum amount of therapeutic agent which, when given daily in an uncomplicated case of pernicious anemia, will produce a satisfactory reticulocyte response and relief of anemia and symptoms.

Concentrates of intrinsic factor derived from hog gastric, pyloric, and duodenal mucosa have been used successfully in patients who lack intrinsic factor. For example, Fouts *et al.* maintained patients with pernicious anemia in clinical remission with oral therapy (liver extracts or intrinsic factor concentrate with vitamin $B_{12}$) for as long as twenty-nine years.

After total gastrectomy, Ficarra found multifactor preparations taken orally to be "just as effective in maintaining blood levels as any medication that has to be administered parenterally." His study was based on twenty-four patients who had survived for five years after total gastrectomy for cancer and who had been taking two Pulvules Trinsicon daily..

*Folic Acid*—Folic acid deficiency is the immediate cause of most, if not all, cases of nutritional megaloblastic anemia and of the megaloblastic anemias of pregnancy and infancy; usually, it is also at least partially responsible for the megaloblastic anemias of malabsorption syndromes, e.g., tropical and nontropical sprue.

It is apparent that in vitamin $B_{12}$ deficiency (e.g., pernicious anemia), lack of this vitamin results in impaired utilization of folic acid. There are other evidences of the close folic acid-vitamin $B_{12}$ interrelationship: (1) $B_{12}$ influences the storage, absorption, and utilization of folic acid, and (2), as a deficiency of $B_{12}$ progresses, the requirement for folic acid increases. However, folic acid does not change the requirement for vitamin $B_{12}$.

*Iron*—A very common anemia is that due to iron deficiency. In most cases, the response to iron salts is prompt, safe, and predictable. Within limits, the response is quicker and more certain to large doses of iron than to small doses.

Each Pulvule Trinsicon furnishes 110 mg. of elemental iron (as ferrous fumarate) to provide a maximum response.

*Ascorbic Acid*—Vitamin C plays a role in anemia therapy. It augments the conversion of folic acid to its active form, folinic acid. In addition, ascorbic acid promotes the reduction of ferric iron in food to the more readily absorbed ferrous form. Severe and prolonged vitamin C deficiency is associated with an anemia which is usually hypochromic but occasionally megaloblastic in type.

**Contraindications and Precautions:** Anemia is a manifestation that requires appropriate investigation to determine its cause or causes.

Folic acid *alone* is unwarranted in the treatment of pure vitamin-$B_{12}$-deficiency states, such as pernicious anemia. Indeed, the use of folic acid in large doses in pernicious anemia without adequate vitamin $B_{12}$ may result in hematologic remission but neurological progression.

As with all preparations containing intrinsic factor, resistance may develop in some cases of pernicious anemia to the potentiation of absorption of physiological doses of vitamin $B_{12}$. If resistance occurs, parenteral therapy, or oral therapy with so-called massive doses of vitamin $B_{12}$, may be necessary for adequate treatment of the patient. No single regimen fits all cases, and the status of the patient observed in follow-up is the final criterion for adequacy of therapy. Periodic clinical and laboratory studies are considered essential and are recommended.

In extremely rare instances, skin rash suggesting allergy has been noted following the oral administration of liver-stomach material. Allergic sensitization has been reported following both oral and parenteral administration of folic acid.

Hemochromatosis and hemosiderosis are contraindications to iron therapy.

**Adverse Reactions:** In rare instances, iron in therapeutic doses produces gastrointestinal reactions, such as diarrhea or constipation. Reducing the dose and administering it with meals will minimize these effects in the iron-sensitive patient.

**Dosage:** One Pulvule twice a day. (Two Pulvules daily produce a standard response in the average uncomplicated case of pernicious anemia.)

**How Supplied:** Pulvules Trinsicon® (hematinic concentrate with intrinsic factor, Lilly), in bottles of 60 and 500 and in Identi-Dose® (unit dose medication, Lilly) in boxes of 100.

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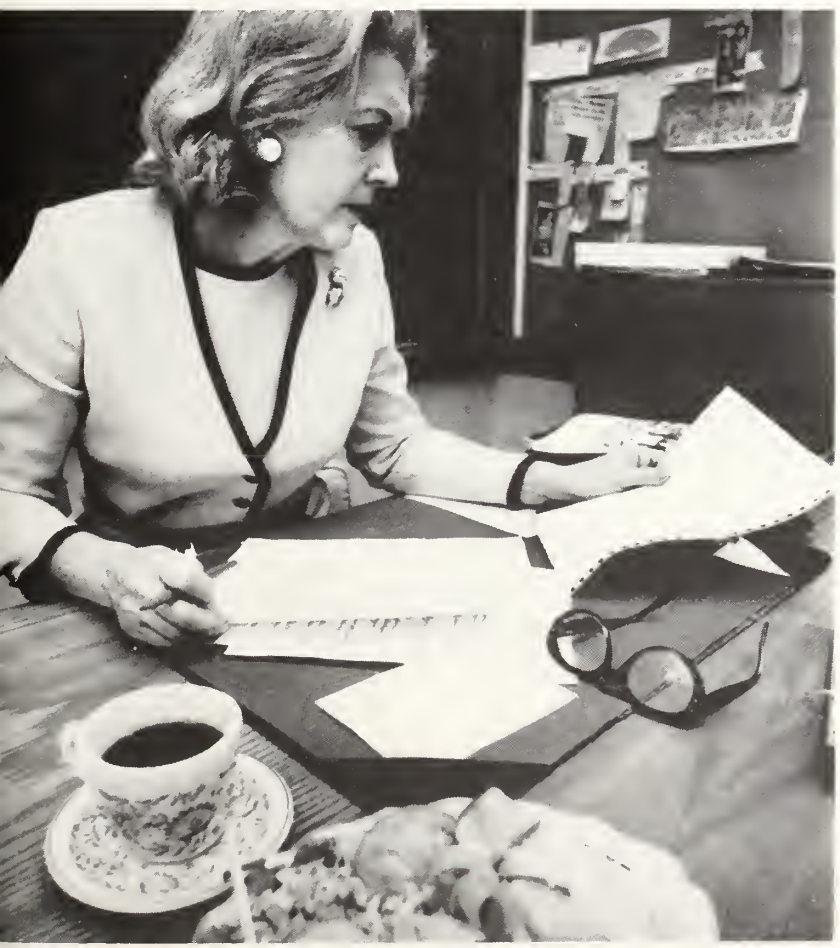
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relieve the pain,
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**Anusol-HC®** hemorrhoidal suppositories with hydrocortisone acetate

Each suppository contains hydrocortisone acetate 10 mg, bismuth subgallate 2.25%, bismuth resorcin compound 1.75%, benzyl benzoate 1.2%, Peruvian balsam 1.8%, zinc oxide 11.0%, and boric acid 5.0%, plus the following inactive ingredients: bismuth subiodide, calcium phosphate, and coloring in a bland hydrogenated vegetable oil base.

**Precaution** Prolonged or excessive use of Anusol-HC might produce systemic corticosteroid effects. Symptomatic relief should not delay definitive diagnosis or treatment.

**Dosage and Administration** Anusol-HC: One suppository in the morning and one at bedtime for 3 to 6 days or until the inflammation subsides. Regular Anusol: One suppository in the morning, one at bedtime, and one immediately following each evacuation.

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# Will his return to work mean the return of undue psychic tension?



When it's mandatory to keep the post-coronary patient calm, consider Valium (diazepam).

Although he's promised to take it easy back on the job, you know he's going back to the same stressful circumstances that may have contributed to his hospitalization. If he experiences excessive anxiety and tension because of overreaction to stress, your prescription for Valium can bring relief. During the period of readjustment Valium can quiet undue anxiety.

For moderate states of psychic tension, 5-mg or 2-mg Valium tablets *b.i.d.* to *q.i.d.* can usually provide reliable relief. For severe tension/anxiety states, the 10-mg tablets often produce desired results.

The most commonly reported side effects are drowsiness, ataxia and fatigue. Until individual response is determined, caution patient against driving or operating dangerous machinery.

## Valium® (diazepam)

### For the tense cardiac patient who must be kept calm

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.

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# The Journal of The SOUTH CAROLINA Medical Association

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POISONOUS SNAKEBITE
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OCULAR FINDINGS

Emergency Care of the Heart Attack Patient
Index

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While Valium can be a most
pful adjunct to your counseling,
ould be prescribed only as long
xcessive psychic tension per-
s and should be discontinued
en you decide it has accom-
hed its therapeutic task. In
eral, when dosage guidelines
followed, Valium is well
rated (see Dosage). For con-
ience it is available in 2-mg, 5-mg
10-mg tablets.

Drowsiness, fatigue and ataxia
e been the most commonly re-
ted side effects.

Until response is determined,
ients receiving Valium should
cautioned against engaging in
ardous occupations requiring
nplete mental alertness, such
driving or operating machinery.

LIBRARY OF MEDICINE
BOSTON
3 JAN 1973

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.

ROCHE
Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N J. 07110

# Valium®
# (diazepam)

To help you manage excessive psychic tension

*The Journal of The*
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*Medical Association*

**DECEMBER, 1972—VOL. 68, NO. 12**

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

**Contributions of Original Articles**

**Mailing address**—Edw. E. Kimbrough, M.D., Editor. 2709 Laurel Street, Columbia, S. C. 29204.

**Length**—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

**Manuscripts**—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

**Illustrations**—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

**References**—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, Arch Int Med 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard—e.g. mg, ml, Gm.

**Reprints**—Reprints will be made for the author at established rates.

# hould old depressives be forgot?

atric depressive.
able to concentrate he tends
ittle interest in the affairs
him. His reactions are slow
yed. He speaks very little.
e does, it's mostly to com-
his insomnia, fatigue, or
ation.

One way of relieving depression in the geriatric patient is with Tofranil.

Please read the prescribing information for details of usage (lower dosages are recommended for elderly patients and adolescents), precautions, warnings, contraindications, adverse experiences, and dosage recommendations. It is summarized below.

## Tofranil® Geigy
imipramine hydrochloride USP



**ipramine hydrochloride USP**

**ations:** The concomitant use of this agent
mine oxidase inhibiting (M.A.O.I.) com-
ontraindicated. Hyperpyretic crises or
ulsive seizures may occur. Potentiation of
cts can be serious or even fatal. An interval
4 days after M.A.O.I. therapy has been
d should be allowed before this drug may
ed. Initial dosage should be low, increases
radual, and the patient's progress should
observed. The drug is also contraindicated
he acute recovery period after myocardial
b) in patients with known hypersen-
he drug. Cross-sensitivity to other dibenz-
npounds should be kept in mind.

**ngs:** *Usage in Pregnancy:* Safe use of
during pregnancy and lactation has not
ished; therefore, in administering the drug
patients, nursing mothers, or women of
g potential, the potential benefits must be
ainst the possible hazards. Animal repro-
dies have yielded inconclusive results.
been clinical reports of congenital mal-
ssociated with the use of this drug, but a
ionship has not been confirmed.
ne caution should be used when this drug

with cardiovascular disease because of the
y of conduction defects, arrhythmias,
al infarction, strokes and tachycardia;
with increased intraocular pressure, history
y retention, or history of narrow-angle
a because of the drug's anticholinergic
s;
roid patients or those on thyroid medica-
use of the possibility of cardiovascular

with a history of seizure disorder because
has been shown to lower the seizure
;
receiving guanethidine or similar agents
pramine may block the pharmacologic
these drugs.
*in Children:* Pending evaluation of results
l trials in children, the drug is not recom-
use in patients under twelve years of age.
he drug may impair the mental and/or physical abilities required for the performance of potentially hazardous tasks, such as operating an automobile or machinery, the patient should be cautioned accordingly.

**Precautions:** Because of the possibility of suicide in seriously depressed patients, careful supervision during the early phase of treatment is necessary and hospitalization may be required. Prescriptions should be written for the smallest amount feasible.

Hypomanic or manic episodes may occur, particularly in patients with cyclic disorders. Such reactions may necessitate discontinuation of the drug. If needed, imipramine may be resumed in lower dosage when these episodes are relieved. Administration of a tranquilizer may be useful in controlling such episodes.

Prior to elective surgery, imipramine should be discontinued for as long as the clinical situation will allow.

An activation of the psychosis may occasionally be observed in schizophrenic patients and may require reduction of dosage and the addition of a phenothiazine.

In occasional susceptible patients or in those receiving anticholinergic drugs (including antiparkinsonism agents) in addition, the atropine-like effects may become more pronounced (e.g. paralytic ileus). Close supervision and careful adjustment of dosage is required when this drug is administered concomitantly with anticholinergic or sympathomimetic drugs.

Patients should be warned that the concomitant use of alcoholic beverages may be associated with exaggerated effects.

Both elevation and lowering of blood sugar levels have been reported.

Concurrent administration of imipramine with electroshock therapy may increase the hazards; such treatment should be limited to those patients for whom it is essential.

**Adverse Reactions:** *Cardiovascular:* Hypotension, hypertension, tachycardia, palpitation, myocardial infarction, arrhythmias, heart block, stroke, falls.

*Psychiatric:* Confusional states (especially in the elderly) with hallucinations, disorientation, delusions; anxiety, restlessness, agitation; insomnia and nightmares; hypomania; exacerbation of psychosis.

*Neurological:* Numbness, tingling, paresthesias of extremities; incoordination, ataxia, tremors; peripheral neuropathy; extrapyramidal symptoms; seizures, alterations in EEG patterns; tinnitus.

*Anticholinergic:* Dry mouth, and, rarely, associated sublingual adenitis; blurred vision, disturbance of accommodation, mydriasis; constipation, paralytic ileus; urinary retention, delayed micturition, dilation of the urinary tract.

*Allergic:* Skin rash, petechiae, urticaria, itching, photosensitization (avoid excessive exposure to sunlight); edema (general or of face and tongue), drug fever, cross-sensitivity with desipramine.

*Hematologic:* Bone marrow depression including agranulocytosis; eosinophilia; purpura; thrombocytopenia. Leukocyte and differential counts should be performed in any patient who develops fever and sore throat during therapy; the drug should be discontinued if there is evidence of pathological neutrophil depression.

*Gastrointestinal:* Nausea and vomiting, anorexia, epigastric distress, diarrhea; peculiar taste, stomatitis, abdominal cramps, black tongue.

*Endocrine:* Gynecomastia in the male; breast enlargement and galactorrhea in the female; increased or decreased libido, impotence; testicular swelling; elevation or depression of blood sugar levels.

*Other:* Jaundice (simulating obstructive); altered liver function; weight gain or loss; perspiration; flushing; urinary frequency; drowsiness, dizziness, weakness and fatigue; headache; parotid swelling; alopecia.

*Withdrawal Symptoms:* Though not indicative of addiction, abrupt cessation of treatment after prolonged therapy may produce nausea, headache and malaise.

**How Supplied:** Round tablets of 25 and 50 mg.; triangular tablets of 10 mg. for geriatric and adolescent use; and ampuls, each containing 25 mg. in 2 cc. for I.M. administration. (B)98-146-850-11 (7/71

**For complete details, including dosage, please refer to the full prescribing information.**

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TO 8575



# When you select this familiar antibiotic for IV infusion you have available a broad dosage range that hospitalized patients may need.

Intravenous Lincocin (lincomycin hydrochloride, Upjohn), with its 1.2 to 8 grams/day dosage range, covers many serious and even life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. Lincocin IV therefore can be as useful in your hospitalized patients as its IM use has proved to be in your office patients. As with all antibiotics, *in vitro* susceptibility studies should be performed.

**1.2 to 8 grams/day IV dosage range:** Most hospitalized patients with uncomplicated pneumonias respond satisfactorily to 1.2 to 1.8 grams/day of Lincocin IV. These doses may have to be increased for more serious infections. In life-threatening situations as much as 8 grams/day has been administered intravenously to adults.

In usual IV doses, Lincocin (lincomycin hydrochloride, Upjohn) should be diluted in 250 ml or more of normal saline solution or 5% glucose in water. But when 4 grams or more per day is given, Lincocin should be diluted in not less than 500 ml of either solution, and the rate of administration should not exceed 100 ml/hour. Too rapid intravenous administration of doses exceeding 4 grams may result in hypotension or, in rare instances, cardiopulmonary arrest.

**Effective gram-positive antibiotic:** Lincocin IV is effective in respiratory tract, skin and soft-tissue, and bone

ections caused by susceptible strains
pneumococci, streptococci, and
phylococci, including penicillin-
istant strains. Staphylococcal strains
istant to Lincocin (lincomycin
drochloride, Upjohn) have been
covered. Before initiating therapy,
ture and susceptibility studies should
performed. Lincocin has proved
uable in treating patients hyper-
sitive to penicillin or cephalosporins,
ce Lincocin does not share
igenicity with these compounds.
wever, hypersensitivity reactions
ve been reported, some of these in
ients known to be sensitive to
icillin.

**ell tolerated at infusion site:** Lincocin
ravenous infusions have not
oduced local irritation or phlebitis,
en given as recommended. Lincocin
sually well tolerated in patients who
hypersensitive to other drugs.
vertheless, Lincocin should be used
tiously in patients with asthma or
nificant allergies.

patients with impaired renal function,
recommended dose of Lincocin
ould be reduced to 25—30% of
dose for patients with normal
ney function. Its safety in
gnant patients and in infants
than one month of age has
been established.

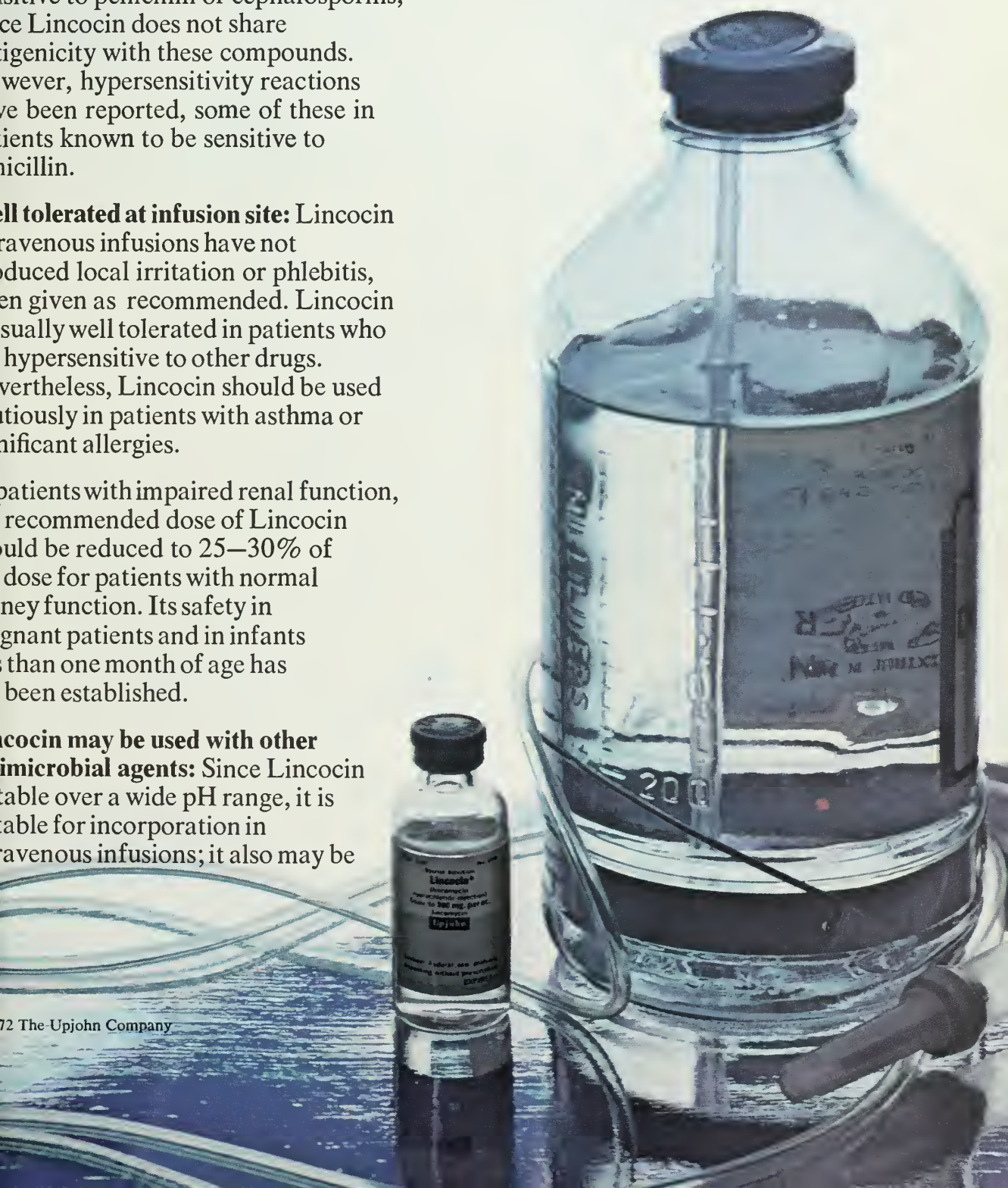
**ncocin may be used with other
imicrobial agents:** Since Lincocin
table over a wide pH range, it is
table for incorporation in
ravenous infusions; it also may be
administered concomitantly with other antimicrobial agents when indicated. However, Lincocin should not be used with erythromycin, as *in vitro* antagonism has been reported.

# Lincocin®

Sterile Solution (300 mg per ml)

(lincomycin hydrochloride, Upjohn)

For further prescribing information, please see following page.



72 The Upjohn Company



Sterile Solution (300 mg. per ml.)

# Lincocin®

# (lincomycin hydrochloride, Upjohn)

## Up to 8 grams per day by IV infusion for hospitalized patients with life-threatening infections. Lincocin is effective in infections due to susceptible strains of streptococci, pneumococci, and staphylococci. As with all antibiotics, *in vitro* susceptibility studies should be performed.

| Each preparation contains: | Lincomycin hydrochloride monohydrate equivalent to lincomycin base |
|---|---|
| 250 mg Pediatric Capsule | 250 mg |
| 500 mg Capsule | 500 mg |
| *Sterile Solution per 1 ml | 300 mg |
| Syrup per 5 ml | 250 mg |

*Contains also: Benzyl Alcohol 9 mg; and, Water for Injection—q.s.

Lincocin (lincomycin hydrochloride) is indicated in infections due to susceptible strains of staphylococci, pneumococci, and streptococci. *In vitro* susceptibility studies should be performed. Cross resistance has not been demonstrated with penicillin, ampicillin, cephalosporins, chloramphenicol or the tetracyclines. Some cross resistance with erythromycin has been reported. Studies indicate that Lincocin does not share antigenicity with penicillin compounds.

CONTRAINDICATIONS: History of prior hypersensitivity to lincomycin or clindamycin. Not indicated in the treatment of viral or minor bacterial infections.

WARNINGS: *CASES OF SEVERE AND PERSISTENT DIARRHEA HAVE BEEN REPORTED AND HAVE AT TIMES NECESSITATED DISCONTINUANCE OF THE DRUG. THIS DIARRHEA HAS BEEN OCCASIONALLY ASSOCIATED WITH BLOOD AND MUCUS IN THE STOOLS AND HAS AT TIMES RESULTED IN AN ACUTE COLITIS. THIS SIDE EFFECT USUALLY HAS BEEN ASSOCIATED WITH THE ORAL DOSAGE FORM BUT OCCASIONALLY HAS BEEN REPORTED FOLLOWING PARENTERAL THERAPY.* A careful inquiry should be made concerning previous sensitivities to drugs or other allergens. Safety for use in pregnancy has not been established and Lincocin (lincomycin hydrochloride) is not indicated in the newborn. Reduce dose 25 to 30% in patients with severe impairment of renal function.

PRECAUTIONS: Like any drug, Lincocin should be used with caution in patients having a history of asthma or significant allergies. Overgrowth of nonsusceptible organisms, particularly yeasts, may occur and require appropriate measures. Patients with pre-existing monilial infections requiring Lincocin therapy should be given concomitant antimonilial treatment. During prolonged Lincocin therapy, periodic liver function studies and blood counts should be performed. Not recommended (inadequate data) in patients with pre-existing liver disease unless special clinical circumstances indicate. Continue treatment of $\beta$-hemolytic streptococci infections for 10 days to diminish likelihood of rheumatic fever or glomerulonephritis.

ADVERSE REACTIONS: *Gastrointestinal*—Glossitis, stomatitis, nausea, vomiting. Persistent diarrhea, enterocolitis, and pruritus ani. *Hemopoietic*—Neutropenia, leukopenia, agranulocytosis, and thrombocytopenic purpura have been reported. *Hypersensitivity reactions*—Hypersensitivity reactions such as angioneurotic edema, serum sickness, and anaphylaxis have been reported, sometimes in patients sensitive to penicillin. If allergic reaction occurs, discontinue drug. Have epinephrine, corticosteroids, and antihistamines available for emergency treatment. *Skin and mucous membranes*—Skin rashes, urticaria, vaginitis, and rare instances of exfoliative and vesiculobullous dermatitis have been reported. *Liver*—Although no direct relationship to liver dysfunction is established, jaundice and abnormal liver function tests (particularly serum transaminase) have been observed in a few instances. *Cardiovascular*—Instances of hypotension following parenteral administration have been reported particularly after too rapid IV administration. Rare instances of cardiopulmonary arrest have been reported after too rapid IV administration. If 4.0 grams or more administered IV, dilute in 500 ml of fluid and administer no faster than 100 ml per hour. *Special senses*—Tinnitus and vertigo have been reported occasionally. *Local reaction*—Excellent local tolerance demonstrated to intramuscularly administered Lincocin (lincomycin hydrochloride). Reports of pain following injection have been infrequent. Intravenous administration of Lincocin in 250 to 500 ml of 5% glucose in distilled water or normal saline has produced rare local irritation or phlebitis.

HOW SUPPLIED: *250 mg* and *500 mg* Capsules—bottles of 24 and 100. *Sterile Solution, 300 mg per ml*—2 and 10 ml vials and 2 ml syringe. *Syrup, 250 mg per 5 ml*—60 ml and pint bottles.

*For additional product information, consult the package insert or see your Upjohn representative.*

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**Contraindications:** Porphyria or sensitivity to barbiturates. **Warning:** May be habit forming.
**Precautions:** Exercise caution in moderate to severe hepatic disease. Elderly or debilitated patients may react with marked excitement or depression. **Adverse Reactions:** Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and systemic disturbances are seldom seen.
**Usual Adult Dosage:** For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d.
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- high plasma concentrations
- economy

**Before prescribing, please consult complete produc information, a summary of which follows:**

**Indications:** Nonobstructed urinary tract infection (mainly cystitis, pyelitis, pyelonephritis) due to susceptible organisms. **Important Note:** ***In vitro*** **sensitivity tests not always reliable; must be coordinate with bacteriological and clinical response. Ad aminobenzoic acid to follow-up culture media. In creasing frequency of resistant organisms limits use fulness of antibacterial agents, especially in chroni and recurrent urinary infections.** Maximum safe tot sulfonamide blood level, 20 mg/100 ml; measur levels as variations may occur.

**Contraindications:** Hypersensitivity to sulfonamides infants less than 2 months of age; pregnancy at ter and during the nursing period.

**Warnings:** Safety in pregnancy not established. D not use for group A beta-hemolytic streptococcal in fections, as sequelae (rheumatic fever, glomerulone phritis) are not prevented. Deaths reported fro hypersensitivity reactions, agranulocytosis, aplasti anemia and other blood dyscrasias. Sore throat, feve pallor, purpura or jaundice may be early indication of serious blood disorders. CBC and urinalysis wit careful microscopic examination should be performe frequently.

**Precautions:** Use cautiously in patients with impaire renal or hepatic function, severe allergy or bronchia asthma. Hemolysis, frequently dose-related, may oc cur in glucose-6-phosphate dehydrogenase-deficien patients. Maintain adequate fluid intake to preven crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias:* Agranulocy tosis, aplastic anemia, thrombocytopenia, leukopenia hemolytic anemia, purpura, hypoprothrombinemia an methemoglobinemia; *Allergic reactions:* Erythem multiforme (Stevens-Johnson syndrome), generalize skin eruptions, epidermal necrolysis, urticaria, seru sickness, pruritus, exfoliative dermatitis, anaphylac toid reactions, periorbital edema, conjunctival an scleral injection, photosensitization, arthralgia and a lergic myocarditis; *Gastrointestinal reactions:* Nausea emesis, abdominal pains, hepatitis, diarrhea, ano rexia, pancreatitis and stomatitis; *C.N.S. reactions* Headache, peripheral neuritis, mental depressio convulsions, ataxia, hallucinations, tinnitus, vertig and insomnia; *Miscellaneous reactions:* Drug feve chills and toxic nephrosis with oliguria and anuri Periarteritis nodosa and L.E. phenomenon have oc curred. Due to certain chemical similarities with som goitrogens, diuretics (acetazolamide, thiazides) an oral hypoglycemic agents, sulfonamides have cause rare instances of goiter production, diuresis and hyp glycemia as well as thyroid malignancies in rats fo lowing long-term administration. Cross-sensitivit with these agents may exist.

**Supplied:** Tablets containing 0.5 Gm sulfisoxazole.

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Division of Hoffmann-La Roche Inc
Nutley, N.J. 07110

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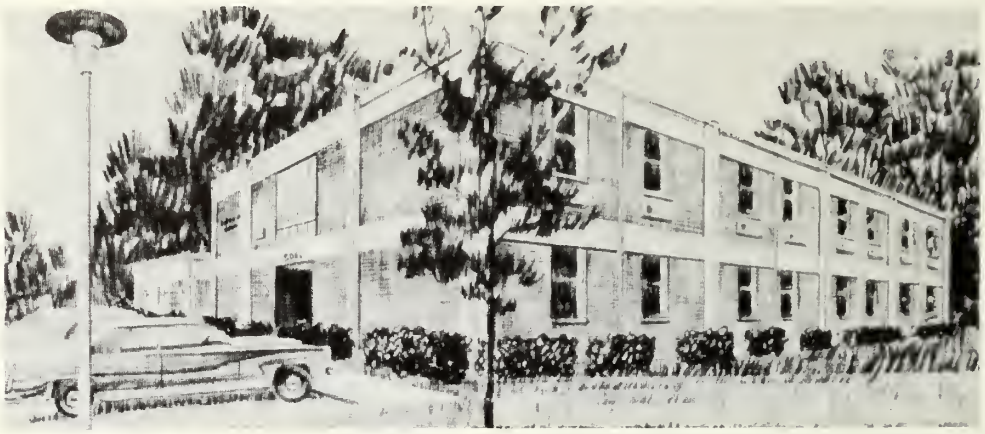
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*– George Sarton, from "The History of Medicine Versus the History of Art"*

# Are combination drug products useful in treatment involving concomitant use of two or more drugs?

# Opinion

Results of a questionnaire to 7,000 physicians:

62.9%
Believe combination drug products are useful.

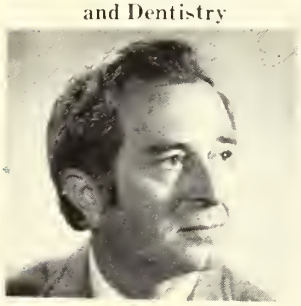
13.8%
Do not believe combination drug products are useful.

# Are combination drug product useful in treatment involvin concomitant use of two or more drugs

Opinion & Dialogue

## Doctor of Medicine

Louis Lasagna, M.D.
Professor and Chairman
Department of
Pharmacology & Toxicology
University of Rochester
School of Medicine
and Dentistry



Obviously, many drugs are given concomitantly. Whether it makes sense to combine medications in one preparation, be it capsule, tablet, or liquid, is a question that can be answered only by examining the advantages and disadvantages in the individual case.

Among the advantages is, first of all, convenience. The more medications that are taken concurrently and the more complicated the directions, the less likely the patient is to take medications accurately. From the standpoint of convenience and accuracy, and economy as well, you can make an important case for putting medications together in one preparation, as long as they are compatible.

By the same token, when you prescribe a properly tested and rational combination, you should have less worry about pharmaceutical or pharmacological compatibility – and about reasonable dosage ratios as well. Compatibility of the formulation should be demonstrated in the laboratory and clinic before the product is available for prescription—which is more than can usually be said for the physician's own spontaneous creations. And, the dosage ratios employed in rational precompounded combinations are designed to meet the needs of substantial numbers of "typical" patients.

There is no doubt that many "atypical" patients are to be found, and for them the prefabricated combination must be rejected. But that hardly argues for eliminating rational combinations from the market. Think, for example, of the problems that would arise if the components of widely accepted combinations, like the oral contraceptives and the diuretic-antihypertensives, always had to be prescribed, purchased and ingested separately.

One disadvantage that comes to mind is some doctors' unawareness of the ingredients a given combination contains. For example, a doctor might know that a patient is allergic to aspirin but forget that a certain analgesic mixture, which he knows only by its trade name, contains aspirin. His prescription, then, causes considerable discomfort, to say the least. This problem is a function of physician education, rather than of combination therapy as such. Improving doctors' knowledge about all medicaments they prescribe is a problem that deserves tackling on its own.

Another accusation leveled at combination drugs is that they encourage sloppiness of diagnosis and treatment. In many cases, however, a combination may prove to be the most effective choice. A good example of the usefulness of combinations appears in a recent article in the *Journal of Chronic Diseases* on the efficacy and side effects of an antihypertensive containing three ingredients, in which the track records of the combination drug and the individual ingredients were compared. Interestingly enough, whether the drugs were given individually or together, incidence and severity of side effects were the same. But blood pressure control was invariably better when the drugs were taken in one combination tablet than when they were taken separately (in "titratable" dosage) or in two or three different tablets.

Deciding which combinations constitute rational therapy obviously leads to a discussion of who is to determine which should be used and which should not. Realistically, I think combinations should be evaluated somewhat differently if they are old and established or new and untried.

In today's regulatory atmosphere, there is no possibility of a new combination being put on the market without a substantial amount of acceptable evidence in the form of controlled trials that show it to be safe and efficacious. On the other hand, I believe a different set of standards should apply to combination preparations that have been around for a long time. In other words, physician acceptance over a long period should be given some weight as evidence of the efficacy and safety of these drugs.

The FDA, however, does not seem to share this attitude. It often requires, for these older products, controlled trials that will monopolize the time of already overtired investigators and cost a great deal of money. I wish we could agree on a "grandfather clause" approach to prescriptions that have been in use for a number of years and that have an apparently satisfactory track record.

For example, I think some of the antibiotic combinations that were taken off the market by the FDA performed quite well. I am thinking particularly of penicillin - streptomycin combinations that patients—especially surgical patients—were given in injection. This made for less discomfort for the patient, less demand on nurses' time, and fewer opportunities for dosage errors. To take such a preparation off the market doesn't seem to be good medicine, unless actual usage showed a great deal of harm from the injection (rather than the proper use) of the combination.

The point that should be emphasized is that there are both rational and irrational combinations. The real question is, who should determine which is which? Obviously, the FDA must play a major role in making this determination. In fact, I don't think it can avoid taking the ultimate responsibility, but it should enlist the help of outside physicians and experts in assessing the evidence and in making the ultimate decision.

# Maker of Medicine

. Clarke Wescoe, M.D.
President
inthrop Laboratories



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combinations generally. Obviously, no one should be exposed willy-nilly to the potential side effects of two or three antibiotics when only one is needed. At the same time there are cases where it is prudent to prescribe more than one. The clinician is the judge in these circumstances, as he should be.

There is no clear definition of the word rational. Most persons, I suppose, would find it synonymous with reasonable, but in many circumstances it may best be defined as the opinion of those in power at the moment.

Other factors govern combination therapy, not the least of which has been its broad use by practicing physicians anxious to achieve convenience in prescribing, to reduce medication error, and to save money for their patients. Combinations clearly have met the test on all three counts.

I have been impressed by studies showing that the rate of error climbs markedly with the number of medications to be taken, even with sophisticated patients. When medically justified, therefore, this factor alone supports the logic of combination therapy.

The cost argument for combinations appears to be irrefutable. In 1971, R. A. Gosselin studied the 71 combination products (excluding oral contraceptives) among the 200 most prescribed drugs. The study found that if all 71 products were discontinued, and if each ingredient in these combinations were prescribed separately, the price of medicines to patients would jump by $443.2 million on a national basis! At a time when the cost of medical care is under so much fire, it would be nonsensical to boost costs without clearly irrefutable medical reasons.

The part played by government on this question, of course, is fundamental. The FDA should play a role in determining which combinations are reasonable. That role, as defined by law and regulation, is to ensure that any medication on the market is safe and effective in line with its label claims. Certainly combinations are entitled to as much consideration as single entities—neither more nor less. So long as the addition of one drug to another does not make either less safe, or less effective, so long as they are compatible in a formulation, we have a reasonable product. It makes no sense to recommend the use of two products for certain conditions and to deny their being combined in a single form. An unhappy side effect of the problem concerns the efficacy panel discussions of many products submitted for review. The term "effective, but" has been freely interpreted to mean "ineffective" in toto, regardless of the merit of the individual drugs. This interpretation has placed numerous useful combination products in needless jeopardy.

In reading the actual reports of the review panels, it seems clear that some of the ratings were based less on scientific research and clinical observation than on the "informed" opinions of the panelists. These "informed" opinions were accepted at face value, while the "informed" opinions of others who had used the products were rejected. All of this put combination products into a sort of scientific never-never land.

It should be kept in mind by all, government as well as others involved in our health care system, that advances in therapy are seldom made in leaps and bounds but rather by small painstaking steps—and that some of these steps have resulted from research in combination drugs as well as with single entities. Given the near-infinite biologic variation in patient response, this is hardly surprising to clinicians. It should not be to regulatory agencies either.

In the end, the practicing physician is in the best position to decide if a particular combination makes sense. Such a decision should not be made exclusively by those whose responsibility for continuing clinical care is limited. Clinicians are the best judges of efficacy because the ultimate proof of any product's effectiveness is acceptance by physicians who have observed its actions in patients over time. The corollary statement may be made about over-the-counter medicines, which would not long survive if they failed to afford the relief the user anticipates. That the antihistamine in a "cold" remedy may not *always* be necessary is no reason to proscribe the combination generally.

## Opinion & Dialogue

**What is your opinion, doctor?**
**We would welcome your comments.**

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# TREATMENT OF POISONOUS SNAKEBITE

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Charleston, South Carolina

Since both the means and the effect of envenomation by poisonous snakes have recevied attention for the length of time which man has been existent, it is remarkable that the treatment is so diverse. Despite the existence of a considerable body of literature concerned with the treatment of snakebite, only a few succinct articles divorce drama and folklore and focus on exacting treatment.

The purpose of this paper is to point out those methods of snakebite treatment that have proven to be most efficacious.

## Incidence of Poisonous Snake Envenomation

Approximately 7,000 people are treated for snakebite each year in the United States. Approximately 15 people die each year in the United States from snakebite.[1]

## Poisonous Snakes in the United States

There are essentially 18 poisonous snakes native to the United States. Seventeen are pit vipers, 15 of which are rattlesnakes; two, the copperhead and the cottonmouth, are moccasins. The remaining poisonous snake is the coral snake, an elapid.

## Identification

Of the 18 poisonous snakes native to the United States, 17 may be positively identified by the presence of a pit, a heat sensing structure located bilaterally approximately half the distance between the eye and the nostril. All pit vipers possess fangs capable of retraction against the roof of the mouth. The pits and the fangs should be examined with caution. The biting reflex of a freshly killed pit viper may persist for as long as 45 minutes.

The size and arrangement of shields on the top and the side of the head and the shape of the pupil are not wholly dependable as a means of positive identification. The presence of a rattle positively identifies the rattlesnake; its absence may be indicative only of trauma or immaturity.

The tail of a snake begins at the anal plate. Ventrally, beyond this point, there exists either a double or a single row of plates or "scutes." Although certain nonpoisonous snakes may have a single row of subcaudal scutes, all of the American pit vipers have this characteristic. All of the pit vipers also have vertical elliptical pupils, but this characteristic is not limited to the pit viper.

Color and markings are often different and are dependent upon species, age, environment and the observer's perception. The presence of a rattle, fangs, the pit, the solitary row of subcaudal scutes and the elliptical pupil are reliable criteria by which to judge the pit viper.

The coral snake in the United States is a tricolored snake of red, black and either yellow or white rings. If the red rings are bordered by yellow or white, the snake is a coral snake. If the red is bordered by black, the snake is not poisonous. The mnemonic, "red-black, friendly jack, red-yellow, kill-a-fellow", is valuable. If the colored bands encircle the body, the snake *may* be a coral

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snake. If they do not, the snake is of some other variety. If the nose of the snake is black, the snake *may* be a coral snake. If the nose is some other color, the snake is of another variety. Coral snakes have round pupils, and the subcaudal scutes are in a double row.

The coral snake has a black nose, has encircling rings of three colors, the red being bordered by either yellow or white and has round pupils. The fangs of coral snakes appear as elongated front teeth, not nearly as distinct as the fangs of pit vipers. Significant envenomation by the coral snake is potentially lethal.

**Venom of Snakes Native to the United States**

Snake venom is an exceedingly complex poison. It may contain neurotoxin (of which at least 19 are distinctly separable) and enzymes, including hyaluronidase, phospholipases, acid and alkaline phosphatases, peptidases, acetylcholine-esterase, specific proteases and various hydrolases. There are direct and indirect hemolytic factors which depress cardiovascular function directly. The biochemistry of snake venoms has been treated thoroughly by Jiménez-Porras[2] who lists 413 specific references.

The physician should realize that snake venom is a heterogenous admixture of relatively low molecular weight substances which may produce myoneural dysfunction, proteolysis, allergy, vasodilation or vasoconstriction, myocardial depression, thrombosis or anticoagulation, red cell lysis, increased capillary permeability, fluid electrolyte imbalance and fear.

Simultaneously, snake venom erodes the normal function of cardiovaseular system, the blood system, the nervous and respiratory systems. Autopharmacological response to snake venom may result in release of lysolecithine, histamine, bradykinin and adenosine.

Proteinases are common components of snake venoms. These are the substances which effect the predominance of local and regional tissue destructions. They may disintegrate fibrinogen and thereby effect anticoagulation or lead to formation of thrombin from prothrombin and have the reverse effect.

Hyaluronidase by its action on connective tissue promotes edema and allows the remainder of the venom to enter adjacent tissues.

Cholinesterase interfers with normal neural function at cholinergic synapses and at the myoneural junctions.

Phospholipases may be largely responsible for red cell destruction and indirectly effect renal function.

Snake venoms vary in their content of specific biochemical substances. This variability is not only characteristic of different species but may exist in the same species under different conditions. The one generally applicable to North American snakes is that the coral snake venom predominates in its neurotoxic effects.

**Envenomation**

Being bitten by a poisonous snake does not mean that envenomation is serious. From a purely probabilistic point, one has a 99.8 per cent chance of living if he is bitten by the "average" poisonous snake in this country. Approximately 50 per cent of persons bitten by a poisonous snake will not require treatment. The factors which do correlate with envenomation have been studied.

Ninety-six per cent of snakebites occur on the extremities, the majority of these being on the legs. Envenomation occurs by injection via the fangs, only. Snakes do not exhaust their venom wtih one bite and several bites are to be assumed more significant than one. The distance between fang marks is a good general indication of the size of the snake. The larger snakes are *generally* more dangerous, although this quality is by no means absolute. The time during which envenomation is occurring generally eorrelates with quantity of venom injected. Envenomation into muscle is more serious than subcutaneous injection.

It becomes apparent that envenomation is a variable affair, not positively or indubitably dependent upon any set of criteria. Poisonous snake envenomation becomes a clinical problem.

**Signs and Symptoms of Poisonous Snakebite**

Most persons realize they have been bitten by a snake and initial symptoms are often

confused by the general lay opinion of certain death. Most report that the initial bite causes an acute sharp pain, much like a bee sting. Local pain is fairly immediate. Initial systemic symptoms are often hard to separate from those characteristic of acute psychic trauma. Dizziness, nausea, apprehension and excessive sweating can be ascribed to fear or to initial systemic effects of venom. Within an hour, local pain is frequently severe. Edema, ecchymosis and actual bleeding at the injection site are apparent within one hour. Over the next three to four hours, regional swelling, presence of edema, progressive ecchymosis and regional cyanosis are apparent. By this time, generalized purpura, hematuria, melena, hematemesis, epistaxis, hemoptysis and conjunctival hemorrhage may become apparent in severe cases. Pulmonary edema may become manifest. The patient may complain of severe thoracic distress, describing symptoms in much the same manner as does the patient with a severe myocardial infarction. The patient appears extremely apprehensive and acutely ill. Pulse rate is increased and pulse volume is decreased. Blood pressure may be low. Respiratory rate is elevated. Slight fever is apparent. The urine may contain red blood cells and free hemoglobin. The plasma may contain free hemoglobin. Leucocyte count is elevated. Platelets may be severely depressed. Fibrinogen may be low. Prothrombin time may be low. Although venom may depress cardiac contractile force, this is not generally the case. Hypotension initially is more probably due to a decrease in active circulating blood volume rather than a decrease in total blood volumes (splanchnic and pulmonary venular pooling).

The course of potential recovery is largely determined in the first hours after envenomation. Irreversible structural changes in vital systems determine the major course of the patient after this time.

**First Aid Treatment of Snakebite**

The immediate treatment of the victim of a poisonous snake is much more firmly based upon scientifically accumulated fact than is generally realized.

The prime consideration of treatment in the field is immediate suction. Suction applied only to the fang marks is effective in removing venom. It is improved by small incisions of the fang marks. These incisions should be approximately $\frac{1}{8}$ to $\frac{1}{4}$ inches and may be vertical, horizontal or cruciate. The incisions should be confined to the skin only and should not penetrate the fascia or into the muscle. They should not extend beyond the radius of the suction device. Immediate suction is the most important single method of snakebite treatment.

A tourniquet tight enough to impede venous flow will facilitate the removal of venom. It is important that incisions be made and tourniquets applied with caution since improper methods may do more harm than snake venom on occasion.

Suction should be applied immediately and continued for 30 minutes. Suction by mouth is less than ideal but is recommended if no other means are available. The extremity should be splinted if possible, again assuring that undue constriction is avoided. The patient should be transported rather than required to walk. Properly executed suction, using proper incisions and a proper tourniquet can remove up to 90 per cent of the venom within a 30 minute period.

First aid beyond 30 minutes, if causing a delay toward further definitive treatment, may be deleterious.

Alcohol ingestion, packing the extremity in ice, and the use of arterial tourniquets are ill advised. Acutely intoxicated patients tolerate hypotension poorly. Hypothermic extremities are more subject to the effects of ischemia, and the release of arterial tourniquets may occasion sudden death.

**Initial Definitive Treatment of Snakebite**

With the knowledge that snake venom can affect the nervous, respiratory, blood, cardiovascular and renal systems simultaneously, or render a portion of an extremity damaged, useless or absent, thorough preparation is mandatory.

A person bitten by a poisonous snake should be hospitalized if only for a 24 hour observation period. Since it is likely that the process of hospitalization will consume a valu-

able quantity of time, certain initial measures are recommended.

Immediate suction should be applied in the manner already described if this measure has not been taken. Vital signs should be recorded and a brief description of pertinent medical, historical and physical data should be dictated or written. Particular attention should be focused upon the history of the injury, the patient's past allergic history and previous serious health problems. Skin testing for sensitivity to horse serum should be immediately done. Intravenous access should be assured. If indicated by signs of severe envenomation, a urinary catheter and a nasogastric decompressive tube should be inserted. Urine should be grossly examined for the presence of blood or hemoglobin and sent for urinalysis. A complete blood count, hematocrit, match and crossmatch for the bank blood should be done. The blood bank should be notified of the possibility of requiring fresh whole blood and of plasma and coagulation factors. An examination of platelet count, prothrombin activity, partial thromboplastin, and fibrinogen is appropriate. Serum electrolyte values are required. Preparation for a possible tracheostomy should be complete.

**Definitive Treatment of Snakebite**

After the patient has been observed for approximately 30 minutes to one hour, a decision can be made toward definite medical and surgical treatment.

It is helpful to grade the severity of the envenomation:

Grade 0 — Bite of a known venomous snake without symptoms or signs other than fang marks.

Grade I — Minimal. Fang marks with minimal swelling, moderate local pain and no systemic signs or symptoms.

Grade II — Moderate. Progressive swelling and pain, edema, petechiae and ecchymoses. Weakness, nausea and vomiting. Bloody ooze from fang marks.

Grade III — Severe. Rapid progression of signs and symptoms of Grade II with generalized systemic signs.

Grade IV — Very Severe. Sudden severe local pain, rapid progressive edema and regional pain, ecchymoses of entire body, blebs and spontaneous rupture of skin of bitten portion. Signs of impending gangrene of bitten extremity, severe prostration, shock, cardiopulmonary crises, pulmonary edema, massive hemorrhage from multiple body orifices, convulsions, paresthesias, blindness.

Coral snake envenomation produces little to no pain or local swelling. It can produce euphoria or drowsiness, marked salivation, tremors, convulsions, fixed contracted pupils, bulbar paralysis.

If the patient has been bitten by a coral snake, the patient should be treated with antivenin specific for coral snake. This is obtainable from the National Communicable Disease Center, 1600 N.E. Clifton Road, Atlanta, Georgia 30357; Telephone (404) 633-3311 or (404) 633-2176.

If the patient is bite Grade 0 or Grade I, he needs no more treatment than tetanus prophylaxis, cleansing of the wound and assurance. Grade II bites should be treated cautiously. Grade III and Grade IV bites should be treated immediately, vigorously and with no equivocation. Treatment is best administered by one physician knowledgeable of the actions of venom, experienced in surgical procedure and life support systems. The physician should also have the support of hematological and other medical colleagues.

Treatment of severe venomous snakebite consists of antivenin, antibiotics, antitetanus prophylaxis, cortisone, and fasciotomy. The key is successful treatment is antivenin.

Polyvalent antivenin is marketed by Wyeth Laboratories, Inc. of Marietta, Pennsylvania. It is a refined and concentrated preparation of serum globulins obtained by fractionating blood from healthy horses that have been immunized with venoms of pit vipers. The antivenin is protective against the venoms of the pit vipers native to this country. It is lyophilized and must be reconstituted with a diluent. Since the antivenin is a product of horse serum, allergy inclusive of anaphylaxis is a potential danger. The physician must judge the value of the antivenin to each individual patient in contrast to its potential

allergic effects. Skin testing is mandatory. Desensitization is possible using graded serially diluted doses.

The route of administration of antivenin should be intravenous. Intravenous injection has proven to be more effective than injections at the bite or into the soft tissues about or proximal to the bite.

The dose of antivenin is an exercise in clinical judgment and titration. The best rule is to use the amount of antivenin which inhibits the progression of tissue necrosis and edema. Grade II envenomation may require 2 to 4 vials; Grade IV may require 20 vials.

Shock is treated with plasma or plasma substitutes and balanced electrolyte solutions. Cortisone is given and is effective as treatment of systemic symptoms. A dosage schedule of 1 gm per day of hydrocortisone in divided doses in the adult with rapid tapering of doses after 48 hours is good generalization.

Respiratory failure or inadequate tissue perfusion is treated with appropriate mechanical respiratory support inclusive of supplemental oxygen. Tracheostomy should be considered and preparation made for its immediate use. It should be used if respiratory support is prolonged or if progressive allergic manifestations become apparent.

Antibiotics should be used in all serious snakebite instances. The wound is immediately contaminated by the snake and often secondarily so by the person who performs local treatment. A broad spectrum antibiotic is sensible. The patient should receive antitetanus prophylaxis.

Serious snakebite from pit vipers is intensely painful. Moderate doses of morphine are appropriate.

Fasciotomy has become accepted as a reasonable and effective means of treatment of serious snakebite. After initial treatment, an incision is made at the site of the bite. If underlying muscle has been envenomated, a bleeding, tense, edematous mass bulges through the exploratory fasciotomy. In such instances, particularly where distal ischemia is becoming apparent, longitudinal fasciotomy may save muscle mass or the distal portion of the extremity by relieving pressure necrosis. The longitudinal surgical wounds may be closed and grafted within one week.

Finally, the subject of possible disseminated intravascular coagulation (DIC) should be given cognizance. Bachmann[3] has presented an excellent summary of the pathophysiology and treatment of DIC. The occurrence of DIC with snakebite has not been generally appreciated, but is probably a major cause of morbidity and death. It is recognized by profuse purpura and frank hemorrhage. Laboratory evidence is manifest by lowered prothrombin activity, decreased platelet count, depressed fibrinogen and prolonged clotting time.

The treatment of DIC resides in the use of heparin and restoration of procoagulants. Heparin interferes with the abnormal coagulation process caused by the snake venom and stabilizes the quantity of available procoagulants. Additional procoagulants may be needed and may be administered immediately prior to heparinization or at the same time.

We have used factors II, V, VIII, IX and XII realizing that these factors are gained from pooled plasma and contain a significant risk of hepatitis. Fibrinogen and platelets are appropriate as is the use of fresh whole blood to restore circulating blood volume. This rather awesome complication of severe envenomation should receive the attention of a competent hematologist. It should be recognized at the stage of initial bleeding and early laboratory investigation. For, once well developed, bleeding may prove more lethal than other more expected signs of poisonous snake envenomation.

## Summary

The pit vipers of North America and the coral snake are identified. Their poisons are recognized as capable of inflicting serious multi-system injury.

The treatment of these injuries consists of incision, suction, antivenin, antibiotics, antitetanus prophylaxis, hydrocortisone, fasciotomy, and the judgment of the use of each or all in each individual case. Disseminated intravascular coagulation should be recognized as a possibility, investigated early by laboratory examination and treated promptly if it becomes manifest.

No other forms of treatment are recommended as routine.

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3. Bachmann, F.: The paradoxes of disseminated intravascular coagulation, Hosp Prac 6: 113-118, 123-126, 1971.

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**Hand-Foot-and-Mouth Disease—**
**It's more Common Than You Think**

J. P. TINDALL and J. L. CALLAWAY (Duke Univ Medical Center, Durham, NC 27710) Am J Dis Child 124:372-375 (Sept) 1972

The oral-hand-foot syndrome caused principally by coxsackievirus A16 and known as hand-foot-and-mouth disease has become a common summer-fall complaint. The appearance and distribution of lesions in the full syndrome are highly characteristic and readily diagnosable to those physicians familiar with the disease. The infection rarely causes severe or lingering disease. Symptomatic treatment, particularly of the oral lesions, is often helpful in alleviating the associated discomfort.

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**Relief of Pain by Percutaneous Cervical Cordotomy**

R. MUKE (Universitatsklinik, Hamburg, West Germany) Dtsch Med Wochenschr 97:1169-1171 (Aug 11) 1972

Percutaneous cervical cordotomy was used in 32 patients, most of whom were suffering from cancer. Pain relief was achieved in 30. This method, compared with open cordotomy, is better tolerated by the patient, it provides selective and certain relief of pain, carries few complications, and requires a shorter hospital stay.

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**Absorptive Capacity of Jejunum of Obese and Lean Subjects**

C. BILLICH et al (820 S Damen Ave, Chicago 60612) Arch Intern Med 130:377-380 (Sept) 1972

The jejunum in eight obese (mean weight 139 kg [306 lb 8 oz]) and four lean subjects (mean 71 kg [156 lb 8 oz]) was perfused with isotonic glucose-sodium chloride solutions containing a nonabsorbable marker polyethylene glycol and, in four subjects, also folic acid, before and after a five-day total caloric fast. Absorption of glucose, water, sodium, chlorine and folic acid and secretion of urea and potassium were determined. The absorptive capacity of the substances measured was identical in normal-weight and obese groups. After the five-day fast, the absorption of glucose, water, sodium, chlorine and folic acid and the secretion of urea declined significantly. Starvation did not alter the jejunal histological findings in three subjects in whom small bowel biopsies were done, but activities of alkaline phosphates, sucrase and maltase in the small bowel mucosa decreased.

# JEROME FRACASTORO

## PHYSICIAN, PHILOSOPHER, AND POET

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The recent work of Theodore Rosebury, *Microbes and Morals — The Strange Story of Venereal Disease* and the now recognized failure of penicillin to curb syphilis have focused attention once again on the Italian physician, philosopher, and poet whose celebrated poem, "Syphilidis," gave birth to the most common nomenclature for the infectious spirochete.

Jerome Fracastoro (Girolamo) was born in Verona in 1479, son of Paolo Filippo and Camilla de Masearelli. The Fracastori family had for several generations distinguished themselves in the service of the Northern Italian city state as municipal officials, lawyers, and naval officers. Privately tutored because of fragile health, young Fracastoro matriculated at the University of Padua, probably at the age of fifteen.

The University of Padua was during this period the leading scientific school of Europe.[1] Ugo Benzi and Jacobo of Forli had given it a name in medicine that attracted students from all of the West. Among its famed alumni in the field of medicine were Andreas Vesalius, Hieronymous Fabricus, and his illustrious student William Harvey. English students continued to study medicine at Padua until well into the 17th century. Following a tradition of progress and liberalism, the University was in the forefront of the late medieval attack upon the Aristotelian and Galenic medical concepts. In an age of intolerance it had granted a medical degree to a Jew as early as 1409.[2]

Fracastoro's rise in the academic world was meteoric. In 1501 he was appointed to the position of lecturer in Logic in the Arts faculty of the University.[3] His early interest in philosophy was to bear fruit later in a number of metaphysical tracts, the *De Intellectione* (On the Intellect), *De Anima* (On the Soul), *De Poetica* (a commentary on Aristotle's Poetics). There is reason to believe that during this period Fracastoro came under the influence of his fellow student Nicholas Copernicus. Copernicus studied at the University of Padua from 1501 to 1506 and had already began the lifelong preoccupation that was to culminate in his epoch making work *The Revolutions of the Celestial Bodies*. Curiously, although a cleric and a canon of the Cathedral of Frauenberg, Copernicus studied medicine at Padua. He later practiced medicine in his native Poland and wrote a number of works on the subject.[4]

Like Copernicus, Fracastoro showed an interest in astronomy and cosmology. In 1538 he published a work on the subject entitled *Homocentrica sive de Stellis* in which he sought, like Copernicus, to improve on the astronomical system of Aristotle and Ptolemy. The work attempted to conceive of the universe as a system of concentric spheres representing planetary motions in numerical detail by means of geometrical devices. The book, as was Copernicus' *De Revolutionibus*, was dedicated to Pope Paul III in hopes of facilitating a much needed calendar reform. Published in the same astronomical work was a medical treatise entitled *De Causis Criticorum Dierum* (On the Causes of Critical Days), which was a direct attack on Galen's doctrine

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that celestial movements do not effect the health of patients. Like many others of this period Fracastoro believed that the origin of epidemics could be traced to the conjunction of the planets and the resulting effect on the earth's atmosphere.

Fracastoro's career as a lecturer at Padua was short lived. The League of Cambrai, formed in 1508 by Pope Julius II, united the German Emperor Maximilian, the kings of Spain, France, and Hungary against the Republic of Venice. Situated in Venetian territory, the University of Padua was forced to close its doors. The city of Verona was occupied by German troops and Fracastoro was forced to flee. He spent most of his later career at his estate on the shores of Lake Garda. Although he practiced medicine, he turned more and more to the patronage of such high ranking ecclesiastics as Pietro Bembo, secretary to Pope Leo X, Gian Matteo Giberti, Bishop of Verona and secretary to Giulio de Medici, and Allesandro Farnese, Secretary of State for Paul III. This clerical patronage culminated in Fracastoro's appointment as official physician to the Council of Trent in January, 1546.[5]

The Council of Trent was the long delayed answer of the Catholic Church to the Reformation in Northern Europe. Upon its success hung the future of the papacy in much of the German Empire and Scandinavia. Fracastoro played an important and controversial role in the failure of the first phase of the Council to reconcile the Lutherans and introduce genuine reform. In March of 1547, largely at the urging of Fracastoro who had diagnosed typhus among the assembled Fathers, several of whom had died; the Council was transferred to Bologna in papal territory, thus wreeking the hope of the Emperor and the German Protestants for an objective hearing and eventual reunion. The Council was not terminated until 1563. It was alleged that Fracastoro had diagnosed typhus as a result of a bribe by the pope with the promise of a bishopric and a Chair at the University of Bologna.

Fracastoro's report to the Counеil indicated that the plague was indeed the disease that he had earlier described in his work — *On Contagion*. He had encountered this disease (Exanthematic Typhus or Lenticular Fever) in 1528 when it almost completely destroyed the French army besieging Naples. The disease, spread by lice and cramped living conditions, had been introduced into Trent by papal troops fleeing the forces of Schmalkaldic League.[6]

Fracastoro first achieved international fame through the publication of a poem entitled *Syphilidus sive de Morbo Gallico* (Syphilis or the French Disease). The work consisted of Three Books of 1300 Latin Vergilian hexameters and is a potpourri of classical mythology, Renaissance cosmology, and contemporary history set partially in the New World. Syphilis, who does not appear until the Third Book, is a creation of Fracastoro's imagination. He appears as a shepherd to King Alcithous of Haiti, the former is afflicted with a terrible disease sent by the god Apollo. The natives of the island call the affliction syphilis.

Curiously, Fracastoro does not identify the disease with sexual morality but sees it as a result of widespread blasphemy. Nor does he subscribe to the popular belief that the disease originated in the New World. There is, as he sees it, nothing new about the malady. Its current epidemic nature he attributes to the french invasion of Italy, hence the name French Disease. The disease is found all over Europe and in parts of Asia and Africa.[7] Among the cures that he recommends are dictamon or decoctions of Cedar as a purgative, mercury, and above all the use of Guaiac, derived from the tree Huyacus which grows in the lesser Antilles.

Although Fracastoro achieved immediate fame as a poet in the publication of *Syphilidus*, it was not until sixteen years later that his most important medical work *De Contageosis Moribus* (On Contagious Diseases) was to appear. Here in his treatment of contagion, he deseribed what many students of medical history believe to be a major breakthrough in the history of medicine. According to F. H. Garrison,[8] his work eontains the first scientific statement of the true nature of con-

tagion, of infection, of disease germs, and the modes of transmission of infectious disease. He describes contagion as a certain precisely similar corruption which develops in the substance of a combination, passes from one thing to another, and is originally caused by infection of the imperceptible particles.[9] These germs are described as particles too small to be perceived by the senses, but which given the appropriate "media" are capable of reproduction and thus of infecting the surrounding tissue. Here, according to a number of authorities, is an account of the nature of disease germs that anticipates the later discoveries of Kircher, Leewenhook, Koch, and Pasteur.[10] The pathogenic units are described by Fracastoro to be of the nature of colloidal systems, for were they not viscous or glutinous by nature they could not be transmitted through the atmosphere. Fracastoro also observed that germs become pathogenic through the action of heat and that in order to produce disease, they need undergo only metabolic change. In addition to a general description of contagion, the book also treats poxes, pestilent fevers, typhus, rabies, elephantiasis, various cutaneous infections, and syphilis. There is a phrophetic and timely note in his observation on syphilis that this disease will pass away and be extinguished, but it will soon be born again and be seen by our descendents.[11]

Following the dismissal of the Council of Trent, Fracastoro returned to his villa near Verona where he remained until his death on August 6, 1553. Among the many famous figures of the Renaissance whom he is said to have treated were Catherine de Medici, Sebastion Cabot, Margaret of Navarre, and the kings of Spain and France, Charles V and Frances I. There was good reason for his contemporaries to acclaim him as having attained the pinnacle of fame among the illustrious doctors of Europe. "Primum inter illustres totius Europae medicos locum obtinebat."

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7. "Nostra tempestate omnem Europam, partimque Asiae . . . in Latium vero per tristia bella Gallorum irripuit."—*Syphilidis,* I, 5.
8. F. H. Gerrison, "Fracostorius, Athanasius Kircher and the German Theory of Disease," *Scienee,* (1910), I, 31ff. also—
   A. Terson, "Sur Fracastor son iconographie et le traite de la contagion." *Bull. de la Soe. Franc. d'Hist. de la Med.,* (1932), 26ff.
9. "Dicemus contagionem esse consimilem quandam misti secundum substantiam corruptionem, de uno in aliud transeuntem infectione in particulis insensibilibus primo facta," *De Contagione,* 1, 5.
10. F. Diepgen, *Geschiehte der Medizin,* I, 276—points out that it is only necessary to substitute bacillus for contagio to see how Fracastoro anticipates many of the discoveries of modern bacteriology. Cf. also W. Kolle, *Handbuch der Pathogenen Mikroorganismen,* VIII, 1108.
11. "Hic idem morbus interibit, et extinguetur, mox etiam et nepotibus rursus videndus renascetur"—this disease will pass away and be extinguished, but it will soon be born again and be seen by our nephews. *De Contagiosis Morbis,* 11, xii.

# OCULAR FINDINGS IN HEAD TRAUMA

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Capt. MARTIN R. PLAUT, MC, USN**

**Abstract**

Next to the state of consciousness, ocular findings rank second in order of significance in determining the diagnosis, management and prognosis of the patient with head trauma. Local eye findings, pupils, extra-ocular movements, nystagmus, vision and visual field changes, and fundus changes contribute valuable information to the patient's clinical evaluation. This paper briefly discusses these findings in relation to head trauma.

The evaluation of head trauma is a significant consideration to the physician who is called upon to see patients involved in trauma, as a specialist is not always at hand. Traffic accidents contribute 52-73 per cent of hospital admissions for head trauma.[1-3] Of those admitted, 34-73 per cent are in a state of diminished consciousness.[2,4] The assessment of the state of consciousness remains the most significant single item for diagnosis, management and indeed, prognosis of the patient with head trauma. Yet, the examination of the eyes is intuitively, perhaps, the first step in the evaluation. It also happens to yield information which ranks second in the order of significance.

This brief discussion is intended to survey only the most obvious and commonly encountered ocular findings due to trauma. It is by no means meant to be a detailed account of the dynamics and mechanisms of eye involvement, often too subtle to be of help in the important early phase of trauma management. A partial and meaningful mental checklist of ocular findings to be applied to head trauma patients is found in Figure 1.

**Figure 1. Checklist of ocular findings in head trauma.**

- **A. Local eye findings**
  - **1. Ecchymosis and chemosis**
  - **2. Position of the globe**
  - **3. Presence of pulsation and bruit**
- **B. Pupil size and reactions**
  - **1. Immediate post-injury pupil size**
  - **2. Presence of anisocoria**
  - **3. Direct and consensual light responses**
- **C. Extra-ocular movements**
  - **1. Paresis of eye movements**
  - **2. Diplopia**
  - **3. Time relationship of paresis**
- **D. Ocular movements**
  - **1. Paresis of conjugate movements**
  - **2. Dissociated movement**
- **E. Nystagmus**
- **F. Vision and visual field changes**
- **G. Fundus changes**
  - **1. Early changes**
  - **2. Progression of papilledema**

## Local Eye Findings

Traumatic changes in the eye and its adnexae indicate in a general way the location, severity and extent of the cranial or intracranial damage. Chemosis and ecchymosis of the lids and conjunctiva are often associated with subconjunctival hemorrhage. Late chemosis and ecchymosis may indicate basilar skull fracture with delayed seepage of blood, or fractures of the nose, the orbital bones or adjacent sinuses.

With fracture through adjacent air sinuses, the eye may become proptosed due to hemorrhage and emphysema in the periorbital tissue. Fracture of the walls of the orbit, including the so-called blow-out fracture, can cause dis-

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placement of the globe with a sunken appearance of the eye.

Traumatic arteriovenous fistulae or aneurysm can be recognized by pulsating exophthalmos with chemosis and rubor of the eye. An associated bruit may be present over the eye, the peri-orbital structures, or the skull. Abolition of these signs by carotid artery compression on that side is confirmatory. This syndrome can occur with traumatic rupture of the internal carotid artery in its course through the cavernous sinus, from, for example, basilar skull fracture.

**Pupils**

Repeated observation of the pupils provides important information. Mydriatics and narcotics mask these changes and must not be used in the early course of events.

With cerebral concussion or contusion, the pupils may be variable in size and reaction. Transient changes are common. It may be impossible to distinguish between traumatic causes and intoxications, drug reactions or physiologic states such as anoxia. Hippus may be present and is non-specific. Degrees of traumatic irritation of the cranial nerves, including sympathetic and parasympathetic components, may give the pupils a varied appearance not helpful for practical purposes. Miotic pupils which react to light are explained in this sense. Fixed miosis, however, may be indicative of serious trauma, usually to the brain stem. Bilateral fixation and dilation of the pupils, in the absence of injury to the eyes themselves, implies involvement of both oculomotor nerves, their nuclei in the midbrain, or a central lesion. These eye findings are likely to be accompanied by other signs referable to the brain stem such as fast or slow pulse, increase or decrease in blood pressure, elevation of temperature, respiratory dysfunction, stupor, coma and "decerebrate" or "decorticate" posture.

An immediately dilated, fixed pupil (unilateral) with ptosis indicates damage of that oculomotor nerve or its nucleus. A unilaterally dilated pupil in a blind eye is due to injury of the optic nerve. Such a pupil does not react to direct light but will react consensually.

The presence of anisocoria is not always pathognomonic of an expanding intracranial process. Approximately 25 per cent of normal individuals have a 1-2 mm anisocoria.[5] In such instances, both pupils exhibit brisk direct and indirect responses to light.

Gradual dilation of one pupil, diminishing briskness of direct light response and eventual fixation to direct and consensual light stimulus implies a progressive increase in intracranial pressure due to unilateral epidural, subdural, or intracerebral hemorrhage, or to brain swelling alone. These lesions produce a mass effect by prolapse of the hippocampal gyrus of the temporal lobe through the incisura of the tentorium. The third nerve is compressed. Occasionally the contralateral pupil may be the one which is dilated. This connotes displacement of the midbrain to the side of the affected pupil. The third nerve on the opposite side is then compressed. At the same time one sees ipsilateral hemiparesis or hemiplegia due to compression of the opposite cerebral peduncle.

Gradual dilation and fixation of both pupils is a manifestation of a progressive, expanding intracranial process on one or both sides, or marked brain swelling alone.

**Extra-ocular Movements**

Observation of the extra-ocular muscles will enable assessment of the third, fourth and sixth cranial nerves. Paralysis of a muscle is evident by failure of the eye to turn into the field of action of that muscle. The conscious patient with paralysis of one or more of the extra-ocular muscles will complain of diplopia which is greater in the field of action of the paretic muscle.

Divergent squint, diplopia and ptosis (external ophthalmoplegia) indicates peripheral injury to the third nerve or brain stem nuclei. Paralysis of convergence is indicative of a central lesion (nuclear or supranuclear of III). Diplopia may exist in this case only on near and not distant vision. Associated contraction of the pupil is also absent.

Diplopia on looking down indicates fourth nerve damage and is usually accompanied with head tilt, as the patient tries to correct his diplopia.

Convergent squint with diplopia is the most

common disturbance in extra-ocular movements because of the long course of the sixth nerve from the pons to the eye. It can be injured directly or by increased intracranial pressure alone.

Dissociation of eye movements (internuclear ophthalmoplegia) indicates injury to the medial longitudinal fasciculus of the pons. The details of such dissociation are often impossible to detect until a patient can cooperate fully with the examination.

Paralysis of conjugate gaze to the opposite side of frontal or occipital lesions causes the eye to deviate to the side of the lesion. Irritative lesions, by contrast, may lead to gaze deviation away from the lesion. This observation may be misleading but in any case, indicates a supranuclear lesion.

Thus, head trauma can produce extra-ocular and ocular movement disturbances in a number of ways. Cerebral trauma causes central movement disturbances such as paralysis of gaze and dissociation of movement. The same can occur with brainstem trauma, direct or indirect, due to secondary compression from cerebral lesions.

Cerebral and brainstem lesions are likely to be accompanied by changes in vegetative function and state of consciousness. Peripheral cranial nerve involvement can, of course, co-exist. Basilar skull fractures can damage the peripheral nerves at the areas of exit through the skull.

Damage about the superior orbital fissure or near the cavernous sinus may catch the cranial nerves III, IV and VI, ophthalmic branch of V, and the ocular sympathetics. This produces III, IV and VI palsy, ophthalmoplegia and absence of corneal reflex, corneal sensation, lid reflex and conjunctival reflex. The maxillary branch of V can be damaged at the foramen rotundum and the mandibular branch at the foramen ovale. A corresponding numbness of portions of the head is the result. Fractures of the acoustic meatus may produce seventh and eighth nerve palsy. Bell's palsy man thus be seen in addition to that due to involvement of the nerve more distally. The eyeball turns up to the affected side with inability to wink and close the lid. This phenomenon is not seen when the damage is central. Such damage cannot be detected by eye observation alone.

Finally, a Horner's syndrome may imply cervical injury in addition to head injury. Frequently a cervical spine series of roentgenograms is in order.

Repeated examination of an extra-ocular paresis yields essential information as to the extent of the injury:

1. Paresis with rapid recovery is due to simple concussion of the nerve.
2. Paresis with recover in months indicates contusion.
3. Paresis with no recovery may result from severed nerve or from interruption of its vascular supply.
4. Onset of paresis after a period of time following the head trauma suggests an expanding lesion such as hematoma or cerebral edema.

With the exception of severe brainstem trauma, deficits of extra-ocular movement are due to peripheral injury of the nerve, and prognosis for recovery is quite good, although a period of several months may elapse before diplopic symptoms, for example, disappear. If there is residual paresis, the patient may benefit from corrective surgery or extra-ocular lenses.

One should not emphasize the localizing value, or even the lateralizing value of an isolated extra-ocular palsy in intra-cranial injury unless it is associated with other neurologic findings, since it may be difficult to distinguish between peripheral, brainstem or supratentorial involvement.

**Nystagmus**

Nystagmus on lateral gaze as a singular finding is of little diagnostic significance. Many normal individuals may exhibit nystagmus which is often related simply to extra-ocular muscle fatigue. However, nystagmus is clinically meaningful when associated with other neurologic findings such as extra-ocular muscle paresis and diplopia, or vestibular nerve involvement accompanied by vertigo, postural dizziness and dim hearing, or appendicular motor and sensory paresis, or movement disorder.

**Vision and Visual Field Changes**

Visual field testing, when possible in acute head trauma, is, at best, a gross examination but may be of value in determining the site of the lesions. Repeated examination is important in assessing the dynamic process intracranially. While transient changes can be ascribed to cerebral edema, progressive field defects may be indicative of intracranial hemorrhage.

Immediate blindness of one eye with a pupil fixed to direct light but still having a consensual light response is due to injury of the optic nerve. The most likely trauma is hemorrhage into the nerve sheath or rupture of the vascular supply about the nerve. Laceration of the nerve itself is rare, except for penetrating injuries of the orbit. Bilateral blindness (cortical) with reacting pupils is found in severe concussion or contusion of the visual cortex of the occipital lobe. An incomplete deficit due to this lesion may produce preservation of central vision with loss of peripheral vision. Loss of central vision alone results from compression of the nerve through the optic canal.

Bitemporal field defects occur with injury to the optic chiasm from basilar skull fracture. Homonymous hemianopia (loss in the same side of each visual field) is a consequence of injury behind the optic chiasm on the opposite side of the visual field loss. Homonymous sector defects in the superior visual fields are suggestive of temporal lobe involvement since the optic radiation travels through the temporal lobe on its course from the occipital visual cortex to the optic chiasm (Meyer's loop).

**Fundus Changes**

In a great majority of cases, the fundus appears normal in the acute period of intracranial trauma. There may be retinal hemorrhages which may appear immediately following the accident or a day or so afterward, and these only mean that intracranial pressure was at least temporarily elevated. Perhaps the importance of early fundus changes with intracranial injuries has been over-emphasized. Instead, the emphasis should be placed on repeated fundoscopic examinations in the days following injury.

Early in concussion or contusion, the retinal arteries will be spastic with possibly pallor of the retina. Venous congestion often follows. Cerebral swelling is at a maximum from two to three days post injury, and during this period, varying degrees of disc edema may be present, even while the patient is improving.

Progression of intracranial pressure due to cerebral edema or expanding hematoma may produce significant papilledema in a matter of days. Frequent fundus examinations will only confirm the changing neurologic status, but one should not necessarily wait for papilledema in the face of a deteriorating neurological status before neurosurgical intervention is contemplated. In fact, papilledema may remain absent.

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# President's Page



The passage of HR-1 by the 92nd Congress will call for numerous changes in the administration of Social Security, Medicare, Medicaid, the maternal and pediatric health programs, and the welfare system. These and still other changes are too many to enumerate at the moment because of sheer numbers and, according to some commentators and analysts, because of a lack of clarity and intent in some portions of the law.

Even so, Congress was unable to come to grips with the alleged problem of National Health Insurance and the complexities of its administration and its costs, if such a program were to be enacted.

Regarding administration and clarity and intent of laws, it is of interest and with regret that the 5.4 billion dollar higher education subsidies program should be cited. The idea of the program was to provide grants up to $1,400.00 a year to students from families in the lower income classes. However, a study by an economist in the Brookings Institute showed that students from families in the wealthier classes were actually getting a more generous share of the federal largess. It was concluded that the inequities were based on defects in the law which allowed a student to qualify for as much or as little as he could coax from some financial aid officer. Hopefully, the defect can be remedied after further congressional hearings and corrective amendments. However, this is yet another example of political and bureaucratic ineptitude. Similar examples could be cited in sufficient number to justify over and over the remark that it is difficult to see how so many presumably innocent and naive Utopians, prodded by professed Socialists, can believe that more and bigger federal government is the panacea for all ills.

Predictions can be hazardous, but it would seem to be safe to say that without doubt the foes of medical practice will promote again in the 93rd Congress the passage of some type, possibly even any type, of national health insurance which would be difficult to administer on the federal level, difficult to practice on the medical level, and expensive beyond estimates to the tax-payer, without lessening cost or improving quality compared to current standards.

For the sake of the public, rich or poor, black or white, sick or well, it is to be hoped that more articulate spokesmen for private medicine and free enterprise will emerge to champion their preference over any of the schemes that may be brought for consideration before the Congress about to convene.

Edward F. Parker, M. D.

# Editorials

### Where the Action Is

The position of Editor of *The Journal* carries with it the honor and privilege of sitting in as a non-voting member on meetings of the Council of the South Carolina Medical Association. It was my pleasure to attend my first of the Council's quarterly meetings in October. It was a tremendously impressive tour de force by our councilors and we want to report to you that you are well represented by intelligent, dedicated men of sound judgment and great endurance. The meeting lasted almost six hours. Men from all areas of the state sat down together, faced difficult problems and hard decisions. Long and important deliberations were completed with seriousness and concentration, but with good humor without frivolity. The meeting was interesting and important, but a physical and mental ordeal for all concerned. And all discussions of the budget were postponed until the January meeting!

We are impressed with our councilors. You are in good hands. Take a moment and thank the councilor from your area the next time you see him. He has spent long and hard hours laboring on your behalf! And at no compensation!

Just as a reminder, the members of Council, South Carolina Medical Association are:

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|---|---|
| First District | Richard Johnston |
| Second District | Waitus Tanner, Chairman |
| Third District | William Klauber |
| Fourth District | Donald Kilgore |
| Fifth District | Halstead M. Stone |
| Sixth District | J. D. Gilland |
| Seventh District | Michael Holmes |
| Eighth District | Randolph Smoak |
| Ninth District | Euta Colvin |

Also members of Council are the South Carolina Medical Association officers:

| | |
|---|---|
| President | Edward F. Parker |
| President-elect | Harold P. Hope |
| Vice-President | Kenneth N. Owens |
| Secretary | Strother Pope |
| Treasurer | J. Howard Stokes |
| Delegate to the A.M.A. | Thomas Parker |
| Delegate to the A.M.A. | John Hawk, Jr. |

Give these men the honor and thanks they deserve and *have duly earned!*

E.E.K.

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### Mayday! Mayday! Mayday!

*The Journal of the South Carolina Medical Association* is in serious trouble! Insufficient scientific material is being submitted to maintain our commitment to excellence. Last month we refused publication of two papers because we did not feel that they came up to the standards previously established for *The Journal.* But unless more material is available for selection, we will have to resort to publishing inferior papers. It is required that advertising not exceed 50 percent of *The Journal* contents. This establishes a minimum of scientific material. To continue the high quality of *The Journal,* we must have more scientific material. Please, experienced authors, keep it coming. Novice writers, try your hand at it.

When first undertaking the Editorship of this journal, we asked for suggestions as to orientation of *The Journal.* Without fail, all my advisers recommended a primary scientific orientation. Please submit your medical thoughts, experiences, and findings so we will be able to follow this good advice.

E.E.K.



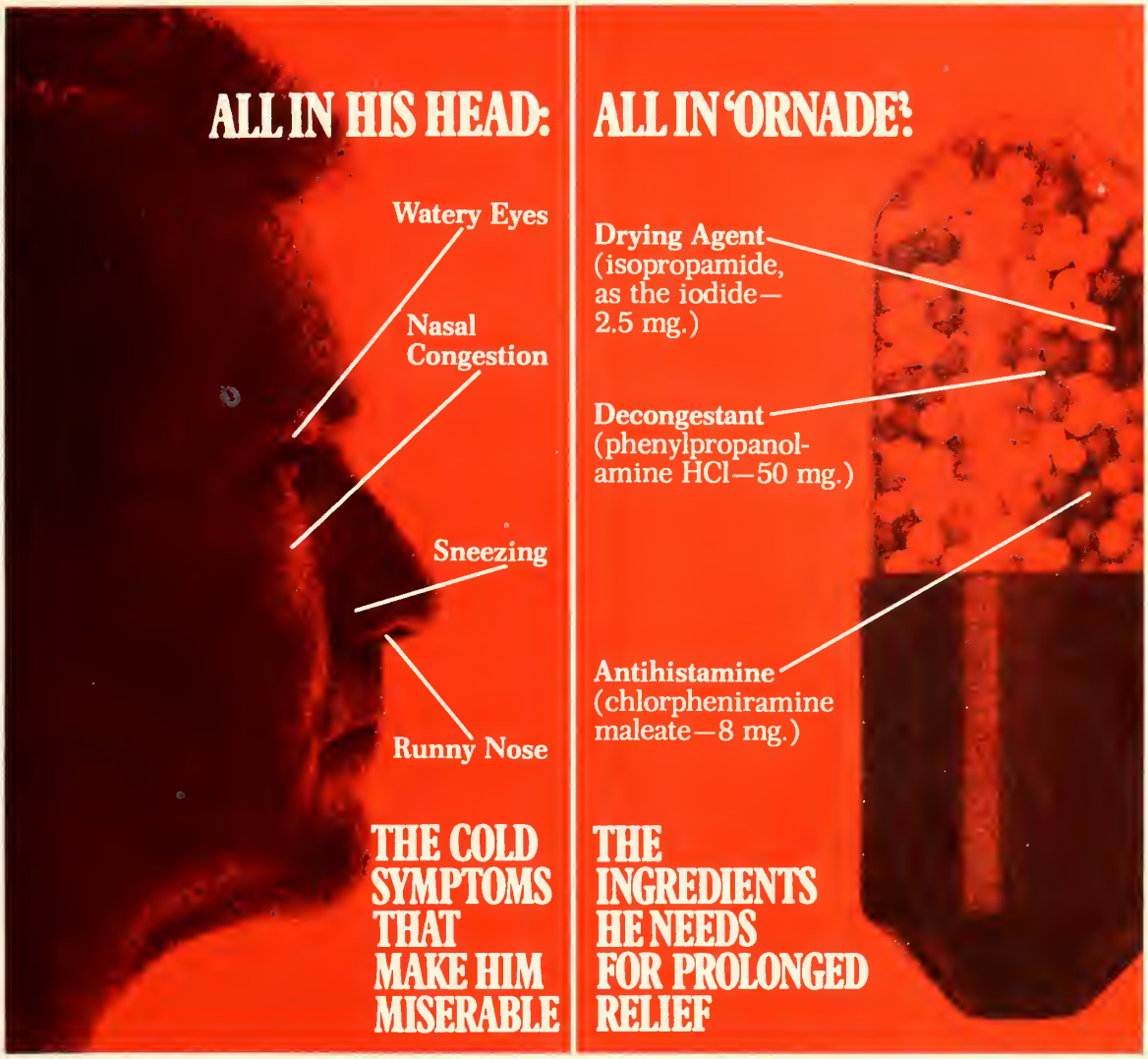

South Carolina physicians named diplomates of the American Board of Family Practice include: **Dr Archibald W. Hursey** of Sumter; **Dr. James A. Underwood** of Newberry; **Drs. Walter Gaillard, James E. Barnett, Warren White,** and **John H. Holliday** of Anderson; **Dr. Joseph F. Flowers** of Walterboro; **Dr. Joseph K. Newsom** of Cheraw; **Drs. David G. Askins** and **Thomas B. Clark** of Charleston; and **Drs. Ralph E. Cox, James B. Gowan** and **William E. Jones** of Greenville. Also named as fellows of the American Academy of Family Physicians were: **Dr. John Creighton Buchanan, Jr.** of Winnsboro; **Dr. Halstead M. Stone** of Chester; **Drs. R. L. Crawford, E. R. Barber** and **Richard Wescoat** of Lancaster; **Dr. William H. Fries** of Hilton Head; **Dr. James E. Allgood** of Inman; **Dr. James G. Jeanes** of Lyman; **Dr. Robert W. Patton** of Rock Hill; **Dr. Hans J. Heller** of Charleston; **Dr. Ira Barth** of Marion and **Dr. W. Carl Walsh** of Easley. Also attending the meeting of the Academy were: **Dr. Robert G. Mann** of Easley; **Dr. Robert Ramseur** of Conway; **Dr. Winston Y. Godwin** of Cheraw; and **Dr. J. S. Garner** of Mullins.

**Dr. Attilio A. Ceraldi** of Abbeville was inducted as a fellow of the American College of Surgeons at its recent meeting in San Francisco. **Dr. Lawrence L. Hester, Jr.** of Charleston has been elected to the Board of Governors of the American College of Surgeons. **Dr. Rexford H. Hunt** was recently elected to membership in the South Carolina Society of Vascular Surgeons at a meeting held in Columbia. **Dr. Travis W. Jenkins,** a third-year psychiatric resident at William S. Hall Psychiatric Institute in Columbia, has been named to participate in the American Psychiatric Association Falk Resident Fellow Program.

**Dr. M. B. Nickles, Jr.** was elected chief of staff of the Byerly Hospital in Hartsville recently. **Dr. Frank Kinsey** was elected vice chief of staff and **Dr. Charles H. Owens** was elected secretary. The newly elected officers of the Medical Staff at Mary Black Memorial Hospital in Spartanburg were: **Dr. W. Ray Henderson,** chief of staff; **Dr. Frederack G. Phillips,** assistant chief of staff; **Dr. Jack A. Evans,** vice-president; **Dr. Eugene M. Bush,** secretary-treasurer. Also taking office were newly elected department chiefs: **Dr. William C. Elston,** surgery; **Dr. Eugene M. Bush,** medicine; **Dr. Benjamin L. Allen,** family practice; and **Dr. R. Duren Johnson,** dental.

The Spartanburg General Hospital board of trustees honored **Dr. Robert Taylor** after completion of two-years as head of the medical staff. **Dr. John M. Fewell** of Greenville was chosen by the South Carolina Nursing Home Association for its annual Better Life Award. The award was for his contributions to patient care in his 50 years of practice. **Dr. John G. Ulmer** was honored in Hemingway after practicing medicine there for 50 years. **Dr. J. L. Goodman** of North Charleston was selected by the Governor's Committee on the Employment of the Handicapped as South Carolina's Physician of the Year.

**Dr. Azar M. Mina** has started her practice in the St. Andrews area of Columbia. After one year of internship at Pahlavi University in Iran, she did her pediatric training in Philadelphia General Hospital and at Children's Hospital of Akron, Ohio. **Dr. Richard M. Helman** has announced the opening of an office in Columbia for the practice of gastroenterology and internal medicine. He is associated with **Drs. Irvin, Saunders, Hair, Fishburne** and **Edwards.**




Before prescribing, see complete prescribing information in SK&F literature or *PDR*.

**Indications:** Upper respiratory congestion and hypersecretion associated with the common cold; acute and chronic sinusitis, vasomotor rhinitis; allergic rhinitis (hay fever, "rose fever," etc.).

**Contraindications:** Hypersensitivity to any component, concurrent MAO inhibitor therapy; severe hypertension; bronchial asthma; coronary artery disease; stenosing peptic ulcer; pyloroduodenal or bladder neck obstruction. Children under 6.

**Warnings:** Advise vehicle or machine operators of possible drowsiness. Warn patients of possible additive effects with alcohol and other CNS depressants.

*Usage in Pregnancy:* In pregnancy, nursing mothers and women who might bear children, weigh potential benefits against hazards. Inhibition of lactation may occur.

*Effect on PBI Determination and $I^{131}$ Uptake:* Isopropamide iodide may alter PBI test results and will suppress $I^{131}$ uptake. Substitute thyroid tests unaffected by exogenous iodides.

**Precautions:** Use cautiously in persons with cardiovascular disease, glaucoma, prostatic hypertrophy, hyperthyroidism.

**Adverse Reactions:** Drowsiness, excessive dryness of nose, throat or mouth; nervousness; or insomnia. Also, nausea, vomiting, epigastric distress, diarrhea, rash, dizziness, weakness, chest tightness, angina pain, abdominal pain, irritability, palpitation, headache, incoordination, tremor, dysuria, difficulty in urination, thrombocytopenia, leukopenia, convulsions, hypertension, hypotension, anorexia, constipation, visual disturbances, iodine toxicity (acne, parotitis).

**Supplied:** Bottles of 50 capsules.

SK&F *Smith Kline & French Laboratories*

Trademark

# ORNADE® SPANSULE®

brand of sustained release capsules

Each capsule contains 8 mg. of Teldrin* (brand of chlorpheniramine maleate); 50 mg. of phenylpropanolamine hydrochloride; 2.5 mg. of isopropamide, as the iodide.

## UNCOMMON RELIEF FOR COLD SYMPTOMS

# If you've seen one, have you really seen them all?

The following patient profiles represent typical clinical situations, but do not necessarily represent actual cases.

Age 22, previously normal menses with occasional menorrhagia. Now on a sequential O.C. for four months. Complains of heavy flow, occasional intracyclic bleeding, edema, tender swollen breasts.

Indicates estrogen excess.

1st choice: Switch to a combination 50-mcg.-estrogen O.C. (such as **Demulen**®).

Age 19, small breasts, minor hirsutism, oily hair and skin. History of metrorrhagia, skipped or scanty menses. New user.

Indicates androgenic excess or estrogen deficiency (fertility is suspect).

1st choice: An estrogen-dominant O.C. (such as **Enovid-E**®).

Age 25, average frame, poor complexion. No problem with menses, normal para 1. On a low-estrogen/high-progestogen O.C. for two years. Now complains of scanty flow, decreased libido, depression.

Indicates probable buildup of progestogen-related side effects.

1st choice: Switch to a center-spectrum O.C. with more estrogen, less progestational activity (such as **Ovulen**®).

Age 21, short, mammose, with normal menses, some acne. Was put on prenuptial regimen of 50-mcg.-estrogen/moderate-progestogen O.C. for two months. Now has increased acne.

Indicates metabolic production of androgen or relative estrogen deficiency.

1st choice: Switch to a 100-mcg.-estrogen combination (such as **Enovid-E**® or a sequential).



same. A basic difference lies in their hormone profiles. One may secrete too much estrogen, another not enough...or perhaps too muc androgen; the vast majority would fit somewhere into the broad cente spectrum.

Although the profiles described below may not be completely predictive, in optimal O.C. selection, the estrogen-progestogen activi ratio should be carefully matched to the patient profile. Searle offers you O.C.s in a range not only suitable for your patients in the balanced center spectrum, but also adaptable to the patient with another type of hormone profile.

Oral contraceptives are complex medications. Among the commonly reported adverse reactions are: intracycle bleeding, fluid retention, tender or swollen breasts, exacerbation of acne condition, changes in libido, amenorrhea while on medication and upon discontinuance, nausea, leg cramps, headaches, weight gain. Therefor after reference to the prescribing information, oral contraceptives should be prescribed with care.

*Note: In some patients any level of exogenous estrogen or progestogen may produce symptoms of excess hormone activity.

ge 25, tall, slender, athletic,
th flat chest. On a progestogen-
minant 50-mcg.-estrogen O.C.
s recurrent trichomoniasis
d Monilia.
Indicates estrogen deficiency and
cess of progestogen in current O.C.
1st choice: Switch to a com-
nation pill with 100 mcg.
trogen and less progestational
tivity (such as **Enovid-E**® or
**ulen**® or a sequential).

Age 23, "Miss America" figure, previously normal menses, healthy skin and hair. On a 50-mcg.-estrogen pill for four months. Complains of intracyclic bleeding.
Indicates probable need for more estrogen.
1st choice: Switch to a center-spectrum O.C. with more estrogen and moderate progestogen dominance (such as **Ovulen**®).

Age 21, college senior, average build. On highly progestogen-dominant/low-dose-estrogen O.C. for six months. Now complains of amenorrhea, between-cycle headaches, weight gain.
Indicates probable progestogen excess.
1st choice: Switch to a center-spectrum pill (such as **Ovulen**®).

Age 27, slightly overweight, multiparous. Nausea with all three pregnancies and with a sequential O.C. three years ago. Has pre-menstrual fluid retention and leg cramps.
Indicates probable excess of estrogen.
1st choice: A 50-mcg.-estrogen/progestogen-dominant pill (such as **Demulen**®).



**Ovulen**® a balanced center-spectrum O.C. for most

Each white tablet contains ethynodiol diacetate 1 mg./mestranol 0.1 mg.

**Demulen**® a moderately progestogen-dominant O.C. for many

Each white tablet contains ethynodiol diacetate 1 mg./ethinyl estradiol 50 mcg.
Each pink tablet in Ovulen-28® and Demulen®-28 is a placebo, containing no active ingredients.
Both Ovulen and Demulen are available in 21- and 28-pill schedules.

SEARLE Products of SEARLE & CO.
San Juan, Puerto Rico 00936

**Enovid-E**® a moderately estrogen-dominant O.C. for some

Each tablet contains norethynodrel 2.5 mg./mestranol 0.1 mg.

SEARLE Product of Searle Laboratories Division
G.D. SEARLE & CO.
P.O. Box 5110, Chicago, Illinois 60680
*Where "The Pill" Began*

r a brief summary
prescribing information,
ease see next page.

# a family of O.C. products to help you match the right pill to the right patient

## Ovulen®

Each white tablet contains
ethynodiol diacetate 1 mg / mestranol 0.1 mg.

## Demulen®

Each white tablet contains
ethynodiol diacetate 1 mg / ethinyl estradiol 50 mcg.

Each pink tablet in Ovulen-28® and Demulen®-28 is a placebo, containing no active ingredients.

**Actions** – Ovulen and Demulen act to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Ovulen and Demulen depress the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

**Special note** – Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

**Indication** – Ovulen and Demulen are indicated for oral contraception.

**Contraindications** – Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

**Warnings** – The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality conducted in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis, pulmonary embolism, and cerebral thrombosis and embolism and the use of oral contraceptives. There have been three principal studies in Britain[1-3] leading to this conclusion, and one[4] in this country. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll[3] was about seven-fold, while Sartwell and associates[4] in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as nonusers. The American study also indicated that the risk did not persist after discontinuation of administration and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Ovulen and Demulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

**Precautions** – The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen or Demulen. Therefore, if such tests are abnormal in a patient taking Ovulen or Demulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations pre-existing uterine fibromyomas may increase in size. Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Ovulen or Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen or Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen or Demulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen or Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

**Adverse reactions observed in patients receiving oral contraceptives** – A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in $T^3$ uptake values; metyrapone test and pregnanediol determination.

**References: 1.** Royal College of General Practitioners: Oral Contraception and Thrombo-Embolic Disease, J. Coll. Gen. Pract. *13*:267-279 (May) 1967. **2.** Inman, W. H. W., and Vessey, M. P.: Investigation of Deaths from Pulmonary, Coronary, and Cerebral Thrombosis and Embolism in Women of Child-Bearing Age, Brit. Med. J. *2*:193-199 (April 27) 1968. **3.** Vessey, M. P., and Doll, R.: Investigation of Relation Between Use of Oral Contraceptives and Thromboembolic Disease. A Further Report, Brit. Med. J. *2*:651-657 (June 14) 1969. **4.** Sartwell, P. E., Masi, A. T., Arthes, F. G., Greene, G. R., and Smith, H. E.: Thromboembolism and Oral Contraceptives: An Epidemiologic Case-Control Study, Amer. J. Epidem. *90*:365-380 (Nov.) 1969.

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San Juan, Puerto Rico 00936

## Enovid-E®

norethynodrel 2.5 mg / mestranol 0.1 mg

**Actions** – Enovid-E acts to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Enovid-E depresses the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

**Indication** – Enovid-E is indicated for oral contraception.

The *Special Note, Contraindications, Warnings, Precautions* and *Adverse Reactions* listed above for Ovulen and Demulen are applicable to Enovid-E and should be observed when prescribing Enovid-E.

## Enovid-E®

brand of norethynodrel with mestranol

SEARLE Product of Searle Laboratories Division
G.D. SEARLE & CO.
P.O. Box 5110, Chicago, Illinois 60680
***Where "The Pill" Began***

272R

**Dr. James Eugene Gee** has announced the opening of his office for the practice of orthopedic surgery. Dr. Gee will be located at 10 W. Calhoun Street, Sumter. He attended Emory University School of Medicine and completed his internship and residency requirements at the Medical University of South Carolina Hospital. **Dr. Ronald Harrison Littlefield** is planning to return to Woodruff next year when he completes his 14-month residency in internal medicine. **Dr. Jarrette Allen Beck, Jr.** has assumed his duties as physician in the emergency room at Anderson Memorial Hospital. Dr. Beck, a general practitioner, graduated from the Medical College of the University of Georgia in 1969 and served his internship at Spartanburg General Hospital. He comes to Anderson after two years of private practice in Woodruff.

**Dr. Robert D. Capell** has announced the opening of his office for the general practice of medicine at 333 Folly Road in Charleston. **Dr. Thomas A. Kirkland, Jr.** has also announced his association with **Dr. W. Bonner Thomason** in the practice of urology at 315 Calhoun Street, Charleston.

**Dr. Hilla Sheriff,** assistant S. C. health officer, has returned from Paris where she addressed the 13th Congress of Medical Women's International Association. The subject of her address was The Laboratory Diagnosis of Toxoplasmosis.

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The Journal of the South Carolina Medical Association

## 50 YEARS AGO

**December, 1922**

The editor speaks: "This issue of the Journal marks the close of the eighteenth year of publication and, while these eighteen years have been the most trying ever experienced in the history of medical journalism, many having succumbed to adverse conditions, we are glad that our journal has surmounted all these obstacles and is today a representative scientific and organization publication." A discussion of the vitamins included only vitamins A, B and C.

### NEW MEMBERS, SCMA

**Dr. Wm. C. Boggs**
1404 Gregg
Columbia, S. C. 29205

**Dr. James H. Herlong**
2009 Hampton St.
Columbia, S. C. 29204

**Dr. Samuel H. Horton**
Beaufort, S. C. 29902

**Dr. Thomas Walker Messervy**
N. C. Mem. Hosp.
Chapel Hill, N. C.

**Dr. Dewitt C. Niles**
2100 Millgate Rd.
Anderson, S. C. 29621

**Dr. John P. Sutton**
2753 Laurel St.
Columbia, S. C. 29204

# CANCER TOPICS

## BCG AND CANCER

PAUL H. O'BRIEN, M.D., FACS*

Defining tumor immunity in man for diagnosis, prophylaxis, and treatment has been a goal of the oncologist since the turn of the century. The presence of tumor specific antigens for diverse cancers has only been demonstrated in the past twenty years. Foley[1] and Gross[2] initially documented that with inbred animals, the animal could be protected from cancer by previous immunization of the animal with the same tumor. The methods of cancer protection are felt to be mediated by the lymphocyte.

It is not unexpected that trials have, therefore, been performed utilizing nonspecific stimulation of lymphocytes in the hope that with such an immunologic "shove," certain cancer patients might enjoy protection from minimal volumes of disseminated cancer. A known stimulus to the lymphocyte is the bacille Calmette-Guérin, a bovine strain of Mycobacterium, which is an attenuated mutant of the tubercle bacillus. This bacillus has been carried through several hundred serial cultures on a bile containing media and has remained avirulent for over forty years.

This bacillus was first introduced in France approximately a half a century ago for protection against tuberculosis. The populations in France which were initially immunized with BCG had little change in the incidence of tuberculosis. Public Health experts in America did not feel the BCG vaccine represented a major step forward, and it was elected not to be used in the United States. Within the large literature over the ability of BCG to protect humans from tuberculosis, most observers agree that the most definitive study was that of the British Medical Research Council.[3] Fifty thousand tuberculin negative adolescent children, who were between the ages of fourteen and sixteen, were randomly sorted. One group received BCG. Another group was not vaccinated. The group that was not vaccinated operated as controls. The vaccinated group had twenty per cent of the incidence of tuberculosis that was found in the unvaccinated group—certainly an impressive field study justifying the use of BCG in a high risk population.

The popularization of BCG as a potential source of cancer has been by Mathé.[4] The recent conference on the use of BCG in the cancer patient at Oak Ridge, Tennessee, has resulted in diverse newspaper articles implying BCG is an accepted and effective therapeutic modality for treating patients with gross clinical cancer. These reports have resulted in great hopes being raised by the loved ones of patients now dying with the advanced incurable common cancers such as lung, gut, breast, etc. Private practitioners have been trying to side step the FDA and acquire BCG as if it, indeed, were an approved method of cancer therapy.

I think we should remember that this type of immunotherapy has only been shown to be effective in the treatment of grafted L 1210 murine leukemias in the laboratory. This immunotherapy, non-specific in type, is only effective when the host animal has less than $10^5$ cancer cells; a volume of cancer in man that is undetectable with current diagnostic methods.

I share the hope with other oncologists that the basic scientist will take the clinician by the hand to an immunologic land of "milk and

*Professor of Surgery, Department of Surgery, Medical University of South Carolina, Charleston, South Carolina.
Director, Cancer Clinic, Medical University of South Carolina, Charleston, South Carolina.

honey." In such a land, simple skin tests and blood tests will define the patient that has a cancer. The patient with cancer will have less than a million cancer cells and, indeed, have no clinical evidence of cancer. Such a patient can then be treated with immunotherapy or multiple drug chemotherapy. Cure will be defined by the reversal of immunologic tests. That day is not yet here, however, and it is cruel to the families of patients afflicted with cancer to prematurely raise false hopes.

The injection of BCG into human cancers has produced serious untoward results and, on occasion, accelerated the growth of the cancer.[5] There has been transient control over isolated foci of metastases but no documented change in the natural history of any human cancer patient treated with BCG. Controlled clinical studies, designed by responsible scientists, are at this time the only place where BCG has a role in cancer therapy. In such studies the goal is to provide a non-specific stimulation of the immune system in patients who are in remission and grossly free of clinical leukemia.

The use of BCG as therapy for the patient with the common gross cancer is no different than treating with heterologous sera, washed buffy coat, sensitized lymphocytes, cottonseed oil, mineral oil, krebiozen, Carcalon, Glover's serum, Coley's mixed toxins, Hadley's vaccine, multiple enzyme therapy, M-P virus, eye of newt, fresh spider's web, and/or Bonifacio's Anticancer Goat Serum.

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3. Medical Research Council: B.C.G. and role of bacillus vaccines in the prevention of tuberculosis in adolescence and early life, Third Report, Brit Med J 1:973, 1963.
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## DEATHS

### Dr. H. W. Koopman

Dr. Herman William Koopman, 77, died October 12 at Spartanburg General Hospital after a brief illness. He was named South Carolina Doctor of the Year in 1951 and received the John Dawson Literary Award. Dr. Koopman was a graduate of the Medical University of South Carolina and a member of the Association of General Practitioners and the AMA.

### Dr. R. G. M. Dunovant

Dr. Robert Gill Mills Dunovant, 76, died October 25 in Self Memorial Hospital in Greenwood. Born in Edgefield, Dr. Dunovant had been a surgeon in New York City for 30 years. He was a member of the American Board of Obstetrics and Gynecology and had returned to Edgefield in 1949, becoming a consultant for Self Memorial Hospital.

# PRE-HOSPITAL EMERGENCY CARE OF THE HEART ATTACK PATIENT

J. E. STOLFI, M.D., FELLOW
AMERICAN COLLEGE OF PHYSICIANS

Emergeney medieal eare of patients with a coronary heart attack is divided into pre-hospital and in-hospital phases. In-hospital treatment made excellent progress during the last deeade, with the development of eoronary care units. Pre-hospital treatment has lagged behind.

Mobile emergeney rooms and coronary eare vehicles deliver medieal eare to patients quieker and more efficiently. Equipped with monitors, shoek equipment and drugs they allow trained personnel to treat patients on the spot and enroute to the hospital.

Nothing has been done to sustain life until a mobile unit arrives. Now an attempt is being made to provide that missing but essential link. The Ameriean College of Physieians has embarked on a mass edueational program on eardiopulmonary resuseitation. This prestigious soeiety, by using the expertise of 20,000 members, hopes to implement this life-saving training program on a nationwide basis.

Cardiopulmonary resuseitation eombines mouth-to-mouth respiration and elosed heart massage. The latter is aeeomplished by applying downward pressure on the breastbone with the palm of the hand. By squeezing it toward the baekbone, the heart is eompressed and blood is foreed out into the general eirculation. A sudden release of pressure eauses the heart to suek blood baek into its chambers. If repeated once a seeond and aeeompanied by blowing air into the lungs through the mouth (12 times a minute), life ean be sustained for periods in exeess of thirty minutes.

The knowledge gained in eoronary eare units, by monitoring patients for long periods, has shown that when the heart stops beating or is rendered ineffieient by a rapid or irregular rhythm, it must be restored within four minutes to preserve the brain.

When eardiae arrest oeeurs in the street, restaurant, theater, sports stadium, golf eourse, or home, it is difficult to provide professional eare within that critieal period. The number of sudden deaths due to heart attaeks annually is about 350,000. To save some of them we will have to teaeh, all old enough to understand, the simple but effeetive resuseitative proeedure outlined above. By instrueting a large number, help for those strieken may be at his side. Sustaining life until professional help arrives will save thousands of vietims eaeh year. The risks involved if the proeedure is performed improperly inelude damage to ribs and bruised organs. Some people may not have a coronary. Subjecting them to resuseitative procedures will do no harm and potential for good greatly outweighs the risks involved.

The College of Physieians, in eooperation with the Heart Assoeiations, will urge physieians to join in this national effort. Demonstrations on mannequins and movie films will be used to train the general publie.

Autopsies have revealed that many people who die suddenly have no apparent heart damage. Death may have been eaused by a reversible eleetrieal disturbanee in rhythm, known as fibrillation. If resuseitated, these individuals eould live a normal life.

A side issue eoneerns legal aetion against those who perform the proeedure improperly. Several states have enaeted laws proteeting individuals who perform emergeney proeedures. They should be adopted universally. This legal problem emphasizes the need for good instruetion. Interest, eooperation, and partieipation by all members of the medieal profession as well as the general publie is neeessary for the sueeess of this vital drive for life.

Well-equipped mobile units staffed with trained personnel are now delivering medieal

# Iron therapy for anemia is almost as old as history itself



Celsus's empirical use of iron

Aulus Cornelius Celsus recommended an unusual form of iron therapy for the treatment of enlarged spleens—the oral administration of water that blacksmiths had used for dousing white-hot iron.

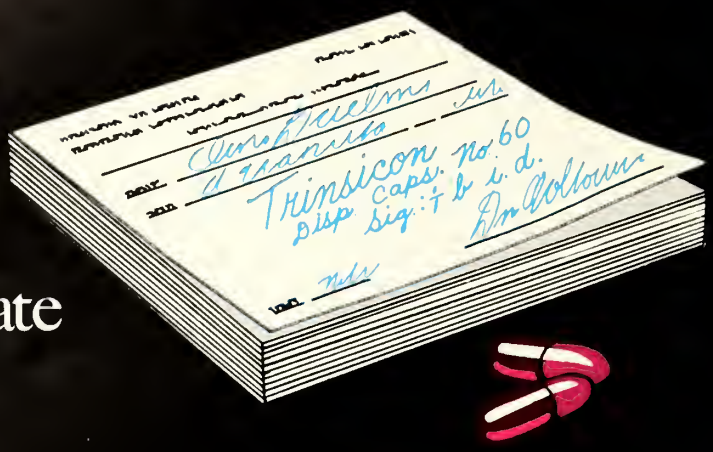
# For more modern anemia therapy

# Trinsicon®

## Hematinic Concentrate with Intrinsic Factor

(See reverse side for prescribing information.)

# Trinsicon®
## Hematinic Concentrate with Intrinsic Factor




**Description:** Each Pulvule® contains—

| | |
|---|---|
| Special Liver-Stomach Concentrate, Lilly (containing Intrinsic Factor) | 240 mg. |
| Cobalamin Concentrate, N.F., equivalent to Cobalamin | 7.5 mcg. |

(The total vitamin $B_{12}$ activity in the Special Liver-Stomach Concentrate, Lilly, and the Cobalamin Concentrate, N.F., is 15 micrograms.)

| | |
|---|---|
| Iron, Elemental (as Ferrous Fumarate) | 110 mg. |
| Ascorbic Acid (Vitamin C) | 75 mg. |
| Folic Acid | 0.5 mg. |

**Indications:** Trinsicon is a multifactor preparation effective in the treatment of anemias that respond to oral hematinics, including pernicious anemia and other megaloblastic anemias and also iron-deficiency anemia. Therapeutic quantities of hematopoietic factors that are known to be important are present in the recommended daily dose.

*Vitamin $B_{12}$ with Intrinsic Factor*—When secretion of intrinsic factor in gastric juice is inadequate or absent (e.g., in Addisonian pernicious anemia or after gastrectomy), vitamin $B_{12}$ in physiological doses is absorbed poorly, if at all. The resulting deficiency of vitamin $B_{12}$ leads to the clinical manifestations of pernicious anemia. Similar megaloblastic anemias may develop in fish tapeworm (*Diphyllobothrium latum*) infection or after a surgically created small-bowel blind loop; in these situations, treatment requires freeing the host of the parasites or bacteria which appear to compete for the available vitamin $B_{12}$. Strict vegetarianism and malabsorption syndromes may also lead to vitamin $B_{12}$ deficiency. In the latter case, parenteral therapy, or oral therapy with so-called massive doses of vitamin $B_{12}$, may be necessary for adequate treatment of the patient.

Potency of intrinsic factor concentrates is determined physiologically, i.e., by their use in patients with pernicious anemia. The liver-stomach concentrate with intrinsic factor and the vitamin $B_{12}$ contained in two Pulvules Trinsicon provide 1½ times the minimum amount of therapeutic agent which, when given daily in an uncomplicated case of pernicious anemia, will produce a satisfactory reticulocyte response and relief of anemia and symptoms.

Concentrates of intrinsic factor derived from hog gastric, pyloric, and duodenal mucosa have been used successfully in patients who lack intrinsic factor. For example, Fouts *et al.* maintained patients with pernicious anemia in clinical remission with oral therapy (liver extracts or intrinsic factor concentrate with vitamin $B_{12}$) for as long as twenty-nine years.

After total gastrectomy, Ficarra found multifactor preparations taken orally to be "just as effective in maintaining blood levels as any medication that has to be administered parenterally." His study was based on twenty-four patients who had survived for five years after total gastrectomy for cancer and who had been taking two Pulvules Trinsicon daily.

*Folic Acid*—Folic acid deficiency is the immediate cause of most, if not all, cases of nutritional megaloblastic anemia and of the megaloblastic anemias of pregnancy and infancy; usually, it is also at least partially responsible for the megaloblastic anemias of malabsorption syndromes, e.g., tropical and nontropical sprue.

It is apparent that in vitamin $B_{12}$ deficiency (e.g., pernicious anemia), lack of this vitamin results in impaired utilization of folic acid. There are other evidences of the close folic acid-vitamin $B_{12}$ interrelationship: (1) $B_{12}$ influences the storage, absorption, and utilization of folic acid, and (2), as a deficiency of $B_{12}$ progresses, the requirement for folic acid increases. However, folic acid does not change the requirement for vitamin $B_{12}$.

*Iron*—A very common anemia is that due to iron deficiency. In most cases, the response to iron salts is prompt, safe, and predictable. Within limits, the response is quicker and more certain to large doses of iron than to small doses.

Each Pulvule Trinsicon furnishes 110 mg. of elemental iron (as ferrous fumarate) to provide a maximum response.

*Ascorbic Acid*—Vitamin C plays a role in anemia therapy. It augments the conversion of folic acid to its active form, folinic acid. In addition, ascorbic acid promotes the reduction of ferric iron in food to the more readily absorbed ferrous form. Severe and prolonged vitamin C deficiency is associated with an anemia which is usually hypochromic but occasionally megaloblastic in type.

**Contraindications and Precautions:** Anemia is a manifestation that requires appropriate investigation to determine its cause or causes.

Folic acid *alone* is unwarranted in the treatment of pure vitamin-$B_{12}$-deficiency states, such as pernicious anemia. Indeed, the use of folic acid in large doses in pernicious anemia without adequate vitamin $B_{12}$ may result in hematologic remission but neurological progression.

As with all preparations containing intrinsic factor, resistance may develop in some cases of pernicious anemia to the potentiation of absorption of physiological doses of vitamin $B_{12}$. If resistance occurs, parenteral therapy, or oral therapy with so-called massive doses of vitamin $B_{12}$, may be necessary for adequate treatment of the patient. No single regimen fits all cases, and the status of the patient observed in follow-up is the final criterion for adequacy of therapy. Periodic clinical and laboratory studies are considered essential and are recommended.

In extremely rare instances, skin rash suggesting allergy has been noted following the oral administration of liver-stomach material. Allergic sensitization has been reported following both oral and parenteral administration of folic acid.

Hemochromatosis and hemosiderosis are contraindications to iron therapy.

**Adverse Reactions:** In rare instances, iron in therapeutic doses produces gastrointestinal reactions, such as diarrhea or constipation. Reducing the dose and administering it with meals will minimize these effects in the iron-sensitive patient.

**Dosage:** One Pulvule twice a day. (Two Pulvules daily produce a standard response in the average uncomplicated case of pernicious anemia.)

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eare in a shorter response time to the patient whose life is being sustained. The number is small but ever inereasing. A eardiologist and nurse are best prepared to utilize the eleetrieal defibrillators, monitors, rhythm-eontrolling medieations, and pain-killing drugs. However, the shortages of both preeludes their use. To eompensate for this, both eardiologists and anesthesiologists have, for many years, offered training programs in the speeifies of treatment and ventilatory teehniques. Residents, nurses, aides, attendants and even drivers ean be trained to use or help in the application of the speeial equipment and drugs. Thump version, elosed eardiae massage and the use of oxygen, after establishing open air passages, are proeedures done frequently by individuals trained to treat heart disease and administer anesthesia. Using these teehniques enroute to the hospital eompletes the life sustaining ehain. The hospital ean be alerted by a two-way eommunieation system and prepare to reeeive the patient. On arrival at the institution the heart attaek vietim is transferred from the vehiele to the intensive or eoronary eare unit without interrupting treatment. When in the special unit, the eardiologist and the anesthesiologist take over and institute treatment whieh has already been proven to reduce the pereentage of deaths.

The above depiets the ideal method of treating the individual whose eollapse results from a eoronary heart attaek. It begins at the time of onset and eontinues through transportation and arrival at the hospital. This is designated as pre-hospital eare. The proeedures that take plaee after arrival are elassified as in-hospital emergeney eare. Many artieles are available in medieal journals that deseribe the latter in detail and it need not be repeated here.

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Only a handful of some 2,600 health related bills introduced into the 92nd Congress have become public law. The most talked about pieces of health legislation over the past two years . . . national health insurance and health maintenance organizations . . . have been set aside for deliberation by next year's 93rd Congress.

After long years of debate by two sessions of the Congress, the Social Security catch-all legislation (H.R. 1) with its significant amendments to Medicare and Medicaid gained passage and has been signed into law by the President. Three of its measures are of major importance to physicians.

First is the Professional Standards Review Organization (PSRO) proposal of Utah's Senator Wallace Bennett which is designed to improve quality and utilization review of health care on a national basis. This provision of the law stresses that over the next two years peer review will be concentrated in institutional settings rather than in physicians' offices, such review to be undertaken by physician organizations only.

Second, the new law stipulates that Medicare and Medicaid patients may receive care from health maintenance organizations (HMO's) but that federal reimbursement for such care will be no greater than for similar services rendered by non-HMO providers.

Third, the new law grants certain chiropractic benefits to Medicare and Medicaid patients. As passed by the Senate, chiropractic benefits were limited only to manipulation of the spine. In joint conference, House members further modified the Senate provision to require that chiropractic benefits be covered only after an x-ray revealed subluxation. The language of the law is not specific, but apparently the x-ray cost will not be paid for by Medicare, nor may the x-ray be interpreted by a chiropractor. However, this point will not be clarified until the regulations are written. The provision also requires that chiropractors, in order to be reimbursed, must meet minimum standards established by the Secretary, Department of Health, Education and Welfare.

### Peer Review

Under the peer review provision of the new law, local medical societies will have the opportunity to establish peer review mechanisms, operating independently, to review the quality of care hospitals and nursing homes provide to Medicare and Medicaid patients.

Task of the PSRO is to "assure proper utilization of care and services . . . utilizing a formal professional mechanism representing the broadest possible cross-section of practicing physicians in an area."

The HEW Department could reach agreement only "with a qualified organization which represents a substantial proportion of the physicians in the geographical area . . ." If this isn't achieved by 1976, HEW could turn to some other group to establish the PSRO.

A PSRO would be required to review only institutional care and services through 1975 unless it chooses—with approval of the government—to broaden the scope to include private practice.

During the pre-1976 period, 10 percent or more of the practicing physicians in an area could demand a poll of all practicing physicians to determine whether the organization negotiating to set up a PSRO substantially represents the physicians of the area. A more than 50 percent "no" vote would break-off the negotiations.

From now until the end of next year, the HEW Department is ordered to establish PSRO areas around the country (usually 300 or more physicians). In some cases it is believed that entire smaller states will be designated as PSRO areas.

In carrying out its responsibilities the PSRO would be required to regularly review provider and practitioner profiles of care and service (that is, the patterns of services delivered to Medicare and Medicaid beneficiaries by individual health care practitioners and institutions) and other data to evaluate the necessity, quality, and appropriateness of services for which payment may be made under the Medicare and Medicaid programs.

The PSRO would be expected to analyze the pattern of services rendered or ordered by individual practioners and providers and to concentrate its attention on situations in which unnecessary, substandard, or inappropriate services seem most likely to exist or occur.

A PSRO would have authority to approve the medical necessity of all elective hospital admissions in advance—solely for the purpose of determining whether Medicare and Medicaid will pay for the care. The PSRO would also be required to acknowledge and accept, in whole or in part, an individual hospital's own review of admissions and need for continued care, on a hospital-by-hospital basis, where it has determined that a hospital's "in-house" review is effective. It is expected that where such "in-house" review is effective this authority would be exercised by the PSRO. Similarly, a PSRO would be required to acknowledge and accept for its purposes, review activities of other medical facilities and organizations, including those internal review activities of comprehensive prepaid group practice programs such as the Kaiser Health Plans and the Health Insurance Plan (H.I.P.) in New York to the extent such review activities are effective.

The PSRO would (after reasonable notice) recommend to HEW appropriate action against persons responsible for gross or continued overuse of services for use of services in an unnecessarily costly manner or for inadequate quality of services and would act to the extent of its authority and influence to correct improper activities.

Where a review organization finds that voluntary and educational efforts fail to correct or remedy an improper situation it would transmit its recommendations concerning sanctions through a statewide council to the secretary of HEW.

The secretary could terminate or suspend Medicare and Medicaid payments for the services of the practitioner or provider involved, or assess an amount reasonably related to the excessive costs to the programs deriving from the acts or conduct involved.

A PSRO would have the responsibility of determining—for purposes of eligibility for Medicare and Medicaid reimbursement—whether care and services provided were: first medically necessary and second provided in accordance with professional standards. Additionally the PSRO where medically appropriate would encourage the attending physician to utilize less costly alternative sites and modes of treatment.

The PSRO would not be involved with questions concerning the reasonableness of charges or costs or methods of payment nor would it be concerned with internal questions relating to matters of managerial efficiency in hospitals or nursing homes except to the extent that such questions substantially affect patterns of utilization. The PSRO's responsibilities are confined to evaluating the appropriateness of medical determinations so that Medicare and Medicaid payments will be made only for medically necessary services which are provided in accordance with professional standards of care.

The local PSRO would be primarily responsible for review of all Medicare and Medicaid services rendered or ordered by physicians in its area. The purpose of the provision is to establish a unified review mechanism for all health care services under the aegis of the principal element in the health care equation, the physician.

### HMO Option

The legislation contains the Administration's request for allowing Medicare-Medicaid beneficiaries to enroll in HMO's but limits the choice to existing pre-paid group practicing plans by providing that incentive reimbursement would be available only to HMO's with a minimum membership of 25,000 and which have been in operation for at least two years. Instead of the Administration's plan for paying such HMO's 95 percent of the combined part A and part B costs of Medicare patients in an area the bill sets out a formula under which HMO's would receive one-half of the savings if care has been rendered for less than the Medicare average in an area (the so-called incentive reimbursement), but would have to absorb the entire loss if HMO treatment for Medicare beneficiaries runs higher than regular Medicare costs in the area.

The Joint Conference rejected a provision

that would have made the federal government share in the losses of HMO care to Medicare patients as well as a provision that would have established a bonus arrangement for states providing HMO care for Medicaid beneficiaries.

### Chiropractic

Inclusion of chiropractic benefits for the first time in a federal program was a set back to the medical profession the Administration, and numerous other anti-chiropractic forces. However, the modification of the chiropractic benefit language in conference may make it practically unworkable. As passed by the Senate, chiropractic benefits were limited to manual manipulation of the spine. In conference, this was modified to require that benefits would be covered only after an x-ray revealed subluxation. Apparently the x-ray cost will not be covered nor can it be interpreted by a chiropractor, but these points will not be clarified until regulations are written.

Senator Edward Kennedy attempted by an amendment from the floor to strike the chiropractic provision, but it was soundly defeated by a vote of 66 to 6. Subsequently, the Massachusetts senator admonished the AMA for not supporting his amendment.

However laudable his effort, Senator Kennedy—an experienced parliamentarian—should have recognized that his attempt to strike the chiropractic provision had no chance of success. His amendment to H.R. 1 was unprinted; he introduced it from the Senate floor; and he proceeded without the cooperation of the bill's floor manager. That his approach was ill-advised from the standpoint of effective parliamentary procedure is evidenced by the amendment's lopsided defeat.

Prior to the introduction of his amendment, the Senator's staff was counseled by anti-chiropractic forces—including the AMA—that he did not have the votes. Further, it was pointed out that an overwhelming defeat of his amendment by a recorded vote would seriously hamper the Senate conferees in their efforts to bargain with members of the House in joint conference.

On several occasions in the past, the Senate Finance Committee has added a similar chiropractic provision to a pending measure. But in each of these cases the Senate conferees later agreed to its deletion in joint conference with the House. In large part this was made possible because the chiropractic issue had not been singled out for separate vote on the Senate floor, and thus did not specifically pin down the Senate conferees.

In the latest instance, Senator Kennedy raised the issue singly and separately. Predictably, his amendment was roundly defeated.

Unfortunately, the effect of this was to impress the Senate conferees with the recorded wishes of the vast majority of their colleagues when they sat in joint conference with the representatives of the House. In conference, however, Rep. Wilbur Mills was able to modify the Senate language so as to require an x-ray determination of subluxation.

### Other Provisions

- Renal disease—individuals under the age of 65, covered by social security, would be eligible for Medicare if they require hemodialysis or renal transplation. This is the second instance in the bill of extending Medicare to younger-than-65-people.
- Abusers—providers determined to have overused Medicare could have their services under the program terminated under stronger powers granted the HEW Department against abusers.
- Black lung—eliminated was a Senate provision that would have extended Medicare coverage to people receiving "black lung" benefits under social security.
- Publicity—adopted is a requirement that HEW Department make public information from a survey of health facilities or organizations on the absence or presence of "significant deficiencies." Also the government must make public evaluations and reports dealing with individual contractor performances of carriers, intermediaries and staff agencies as well as program validation survey reports with names of individuals deleted.
- Joint Commission—HEW could enter into agreements to have states survey a hospital or hospitals certified by the Joint Commission an Accreditation of Hospitals on a




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limited basis where an allegation has been made that adverse health conditions exist.

- Eyeglasses, etc—rejected was a Senate provision adding Medicare part B benefits for poor families the costs of eyeglasses, podiatric services, dentures and hearing aids.

Left intact in the measure is a limitation on physicians' prevailing charge levels under Medicare. Recognized as reasonable are only those charges which fall within the 75th percentile (a charge that covers 75 percent of the existing case charges for a procedure or treatment in an area excluding the top 25 percent of charges), a step that Social Security already has carried out administratively. Starting next year, under the bill, future charge increases would be limited by a factor which takes into account increased costs of practice and the increase in earning levels in an area.

Stricken from the bill was a $900 million provision to add drugs as an outpatient Medicare benefit, as well as a plan that would have established an Inspector General over Medicaid and Medicare in the HEW Department.

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## A SUMMARY OF AMA, MEDICAL & HEALTH NEWS

**AMA's 1972 Opinion Survey** revealed that AMA members and non-members pretty well agree on major issues. Both members (73.2%) and non-members (66.9%) want AMA to continue to seek to retain basic principles of private practice in any government health program that might be enacted. Comparable proportions of members (24.6%) and non-members (27.5%) said they would practice under a nationalized health program if it were enacted.

**Physicians run the risk** of being subjected to retroactive denial of Medicare benefits unless they are able to provide acceptable documentary evidence substantiating dates of their hospital visits, the AMA warns. As a precautionary measure, the AMA urges physicians to "make sure that there is an entry on the hospital record for each patient substantiating the date of each visit." To guide physicians the AMA has developed an informational statement based on Medicare rules and verified by the Bureau of Health Insurance. Write the Division of Medical Practice, A.M.A.

**Special phone service** for physicians seeking information or guidance on Phase 2 price controls is provided by the AMA. Just call (312) 527-1571, Ext. 434, and ask for Robert Walsh of the AMA Center for Health Services Research and Development. After closing hours messages will be recorded so that callback answers can be made. The AMA has received about 25 calls a week since establishing the service in August.

**Overwhelming MD response** has greeted a financially attractive new insurance program sponsored by the AMA as an added benefit of membership. Nearly 20,000 dues-paying AMA members enrolled in the $250,000 Excess Major Medical Insurance program during the initial two-month enrollment period.

**To help physicians** establish themselves in practice the AMA is developing a series of seminars emphasizing basic management techniques. Residents who participate in the 2½-day workshops will receive guidance on practice planning and management and on legal aspects of medicine. There is a $25 registration fee for those who are not AMA members. Direct inquiries to Department of Practice Management, AMA.

**Emergency loan program** jointly established by the Pennsylvania Medical Society and the AMA helped nearly 150 flood-stricken physicians reestablish their practices. PMS and AMA allocated $300,000 each to provide interest-free loans of up to $5,000 to physicians whose offices were damaged by Hurricane Agnes.

**AMA Trustees visited** 42 of the 1972 annual sessions held by state medical societies. Purpose of the special State Visitation Project, launched last spring by the Board of Trustees, was to improve communications between the AMA, state medical society officials and individual physicians. Through face-to-face discussions, Board members gained a better understanding of problems that are of primary concern to individual physicians and obtained suggestions on how to attack these problems. They also described AMA programs and activities.

**Significant progress** in devising a standard form for claims reporting has been reported by an AMA-sponsored work group representing 10 national organizations and federal agencies. It has reached agreement on the form's content and is now designing a form that will be computer-adaptable.

**The AMA is sponsoring** a series of 10 regional seminars for medical directors and administrators of long-term care facilities. The two-day programs stress managerial techniques that will lead to better patient care. The seminars are financed by a $172,000 grant from HEW. For details contact Department of Hospitals and Health Facilities,, AMA.

**New AMA publications for MDs**: *Human Sexuality*, a 300-page guide on sex counseling $5.95. Write Order Department, AMA. *Health Care Delivery in Rural Areas,* 48

pages, no charge. Write Department of Rural Health, AM..

**The AMA is assisting** 23 medical specialty associations in efforts to develop guidelines for use in local peer review activities. Participating in the program are representatives from those specialty associations that comprise AMA's Interspecialty Council. The guidelines will be developed independently bythe individual specialties with the AMA serving in a coordinating role.

---

Harry Marsh had some interesting and practical suggestions for hospital laboratory servicing which can cut down the cost and length of hospitalization. His survey showed that the laboratory is poorly utilized for the first 24 hours of hospitalization because peak admission is between 3 to 6 p.m. and that the laboratory is staffed oppositely, ie, everyone in the lab goes home just as the patients come in. At Wesley Medical Center, the lab staff in the 2nd and 3rd shifts were beefed up, a cross over responsibility of shifts instituted, viz with a half hour overlap of staff. The Center also set up a "bleeding room" in the admission area so that lab personnel need not chase all over the hospital and a nurse admission program started wherein the doctor can be called to start his lab tests immediately upon admission of his patient. Harry states, "Complaints are rife about the cost of medical care while modern scientific medicine demands expensive instruments. So the only obvious way would be to take care of people 'on the hoof' so to speak and thereby shorten their stay." The keys to his program are: an admitting nurse program; physician willingness; bypass of housestaff education; one point bleeding; a well trained flexible night crew; a clinical pathologist on call until 6-7 p.m. with frequent call backs till midnite. Harry feels that "our habit patterns have to change if we are to reduce hospital costs and improve medical care."





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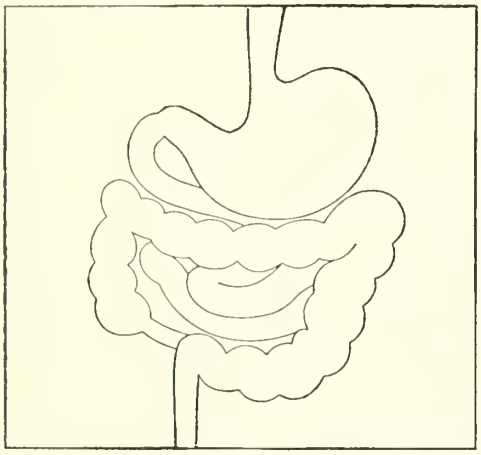
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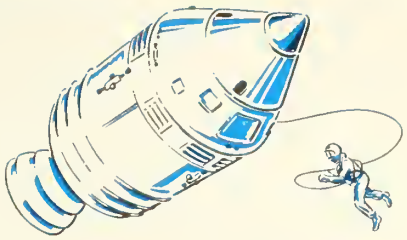
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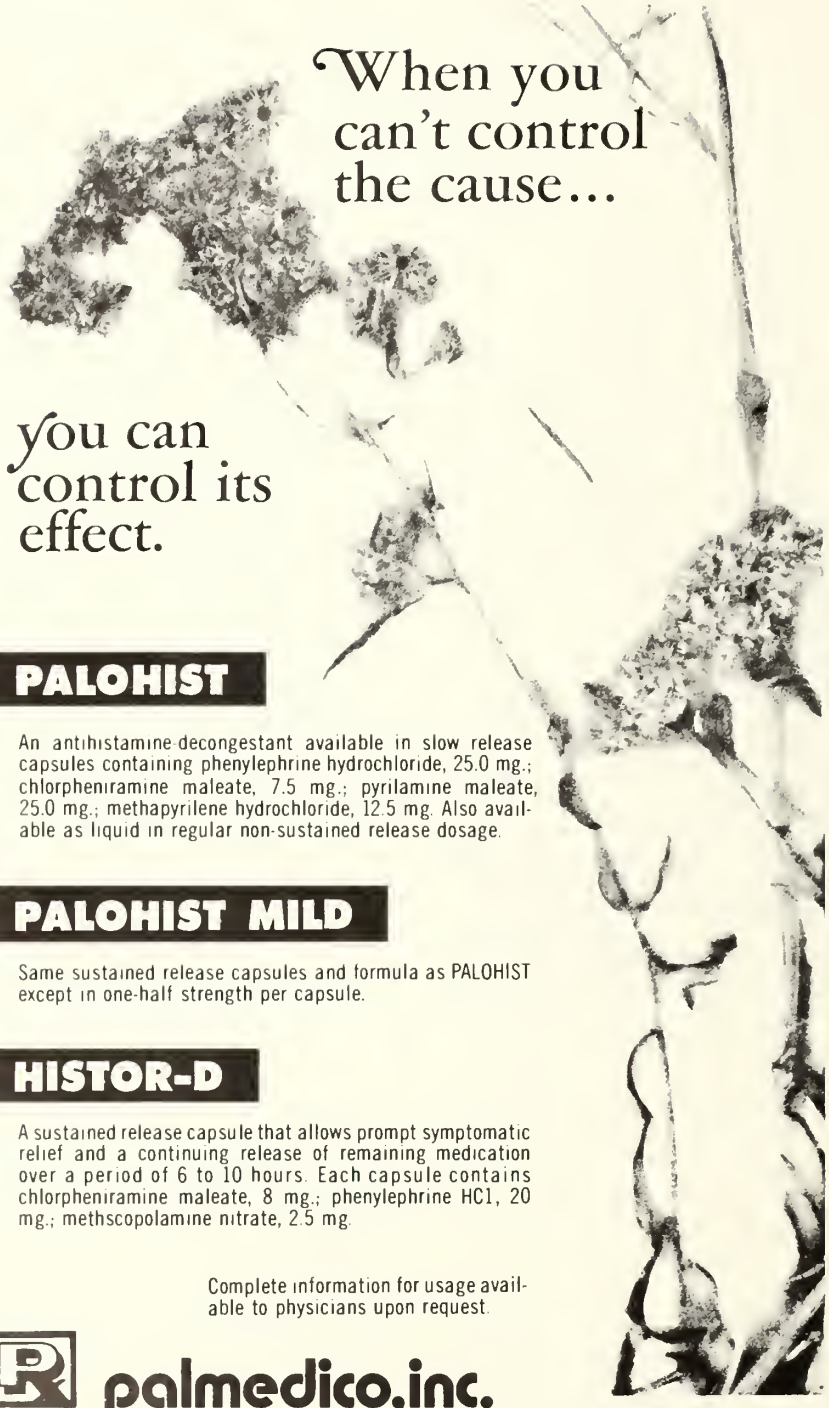
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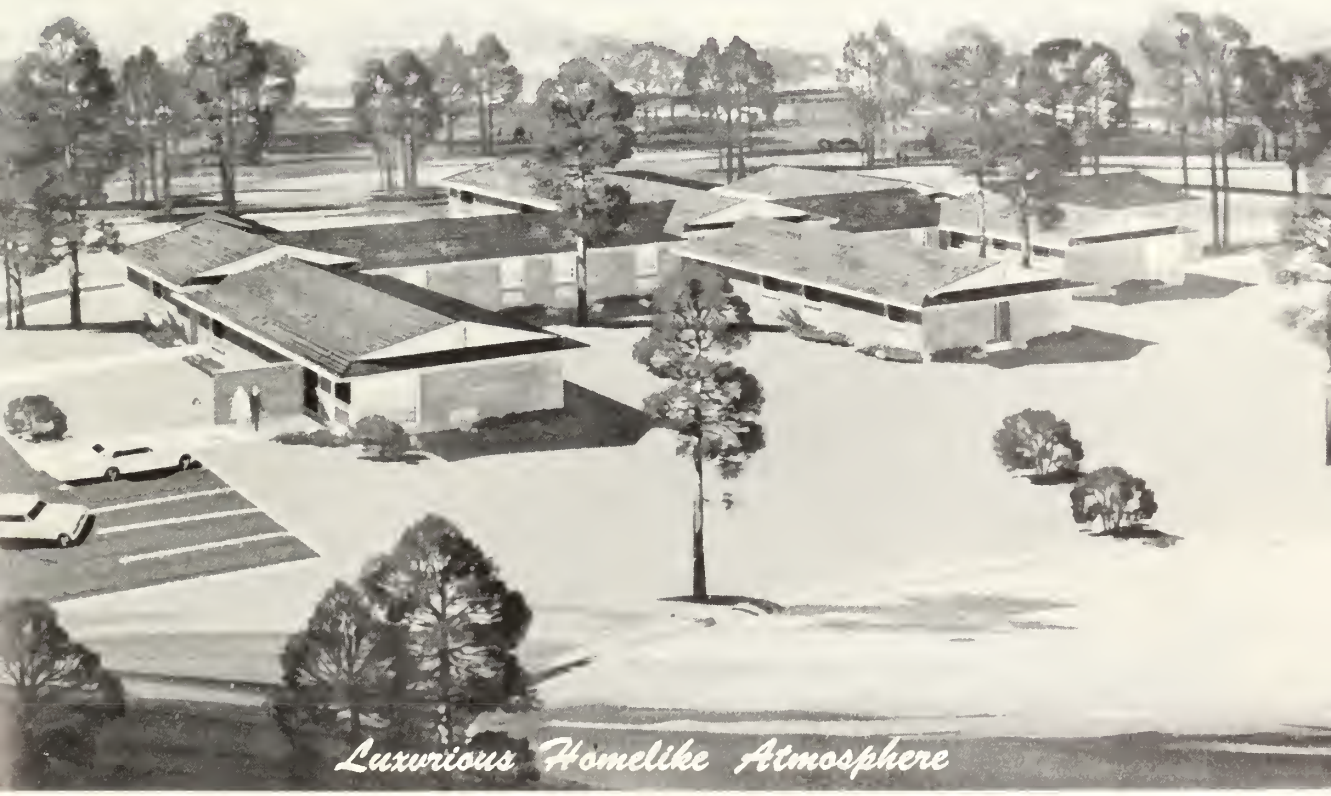
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The South Carolina Society of Pathologists met on Saturday, November 11, 1972, at the Medical University of South Carolina in Charleston. The following officers were elected for the year 1972-73:

President – C. Herbert Magruder, M.D., Self Memorial Hospital, Greenwood, South Carolina.

Vice President – Louis D. Wright, Jr., M.D., McLeod Infirmary, Florence, South Carolina.

Secretary/Treasurer – W. McA. Davis, M.D., Spartanburg General Hospital, Spartanburg, South Carolina.

Executive Committeman at large – Gordon R. Hennigar, M.D., Professor and Chairman, Department of Pathology, Medical University of South Carolina, Charleston, South Carolina.

Dr. Robert H. Heptinstall, an authority in Kidney Pathology and Professor and Chairman of the Department of Pathology at Johns Hopkins, gave a presentation to the members of the Society on findings in recent studies of some renal diseases.




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